Installation manual

OverView D 50"

Title: Installation manual OverView mDG50-DL/OverView mDR50-DL / Overview mDR+50
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This manual is divided into 11 chapters:

	main issue	update
chapter 1		
chapter 2		
chapter 3		Rev. 10 seamless screen added
chapter 4		Rev. 04: earthquake protection kit added,
chapter 5		Rev. 08: wall fixation added
chapter 6		Rev. 10 installation of 3200 color filter
chapter 7		
chapter 8		
Chapter9		
Chapter10		
Chapter11		Revision 10 deinstallatin of seamless screen

new: The corresponding chapters are new or completely revised.
corr.: Passages of the corresponding chapter were corrected; see modification bars.
add.: Passages of the corresponding chapter were added; see modification bars.

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1 Assembly of support frame

In deliveries for over sea destination the supports are completely disassembled

This section describes how to assemble the support frame for OverView mD.

1.1 Contents of support frame carton

Before starting to assemble the support frame check if the material is complete.

Quantity	Description	Support 875mm	Support 1000mm	Support 1200mm
2	Front profile (vertical)	**PU I 1, PU I 2**	**PU 4I 1, PU 41 2**	**PU 3I 1, PU 31 2**
2	Rear profile (vertical)	**PU II 4, PU II 5**	**PU 4I 4, PU 4I 5**	**PU 3I 4, PU 3I 5**
2	Front profile (horizontal)	**PU II 3**	**PU 2I 12, PU II 3**	**PU 2I 12, PU II 3**
2	Rear profile (horizontal)	**PU II 3**	**PU II 3**	**PU II 3**
4	Side profile	**PU I 7**	**PU I 7**	**PU I 7**
1	Angle with multi socket installed **[2]**			
12	Reinforcing angle **[1]**			
1	Box with screws			
4	Adjustable foot			
4	Profile connector			
1	Cable channel			
2	safety bracket			

Table 1
List of Contents 1 support frame

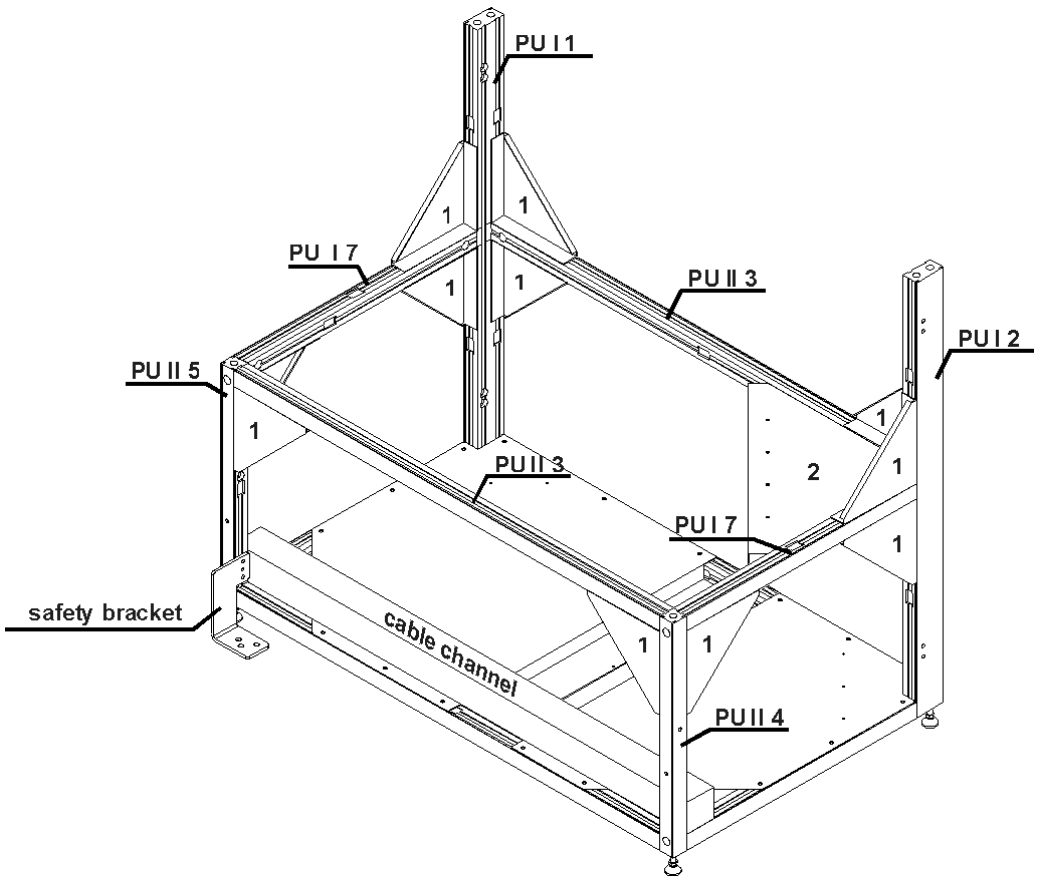


Figure 1-1
Overview of support frame, labels refer to support 875mm, for other other heights see table!

1.2 Required tools

Quantity	Description
1	Torx key size 30
1	Allen key size 6

Table 2
List of required tools

1.3 Assembly of left and right frame

The following picture shows how to assemble both frames.

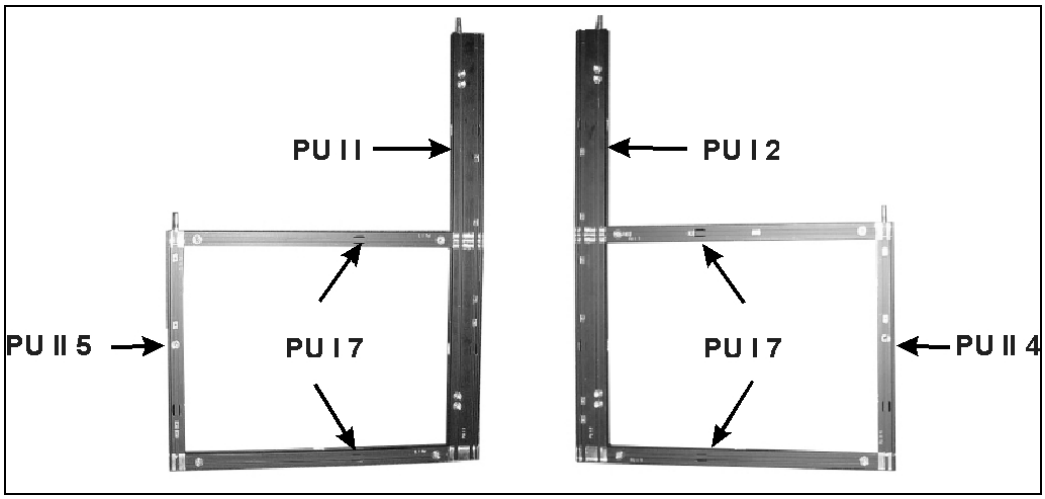


Figure 1-2

One of the profiles PU I 7 is equipped with 3 more counter nuts than the other. This profile must be installed at the right side of the support frame (rear view).

It is very important that the profiles fit exactly together. The following figure shows details.

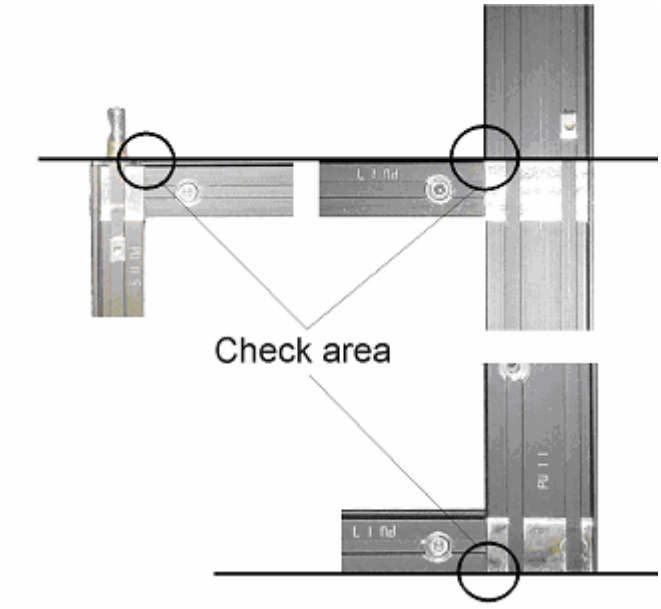


Figure 1-3

1.4 Installation of horizontal profiles

- Install the two horizontal profiles PU II 3 at the profiles PU I 2 and PU II 4

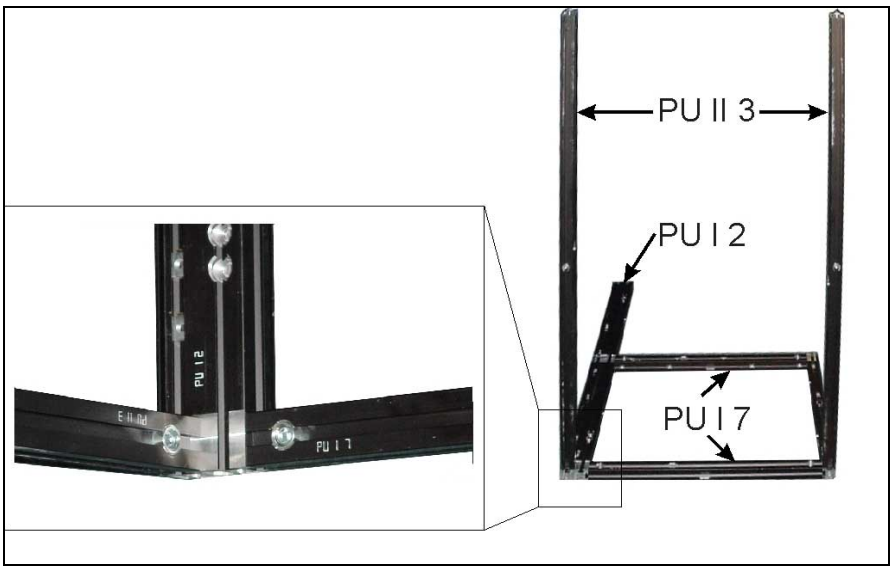


Figure 1-4

- Turn the support that the two profiles PU II 3 touch the ground.
- Install the second frame at the profiles PU II 3.

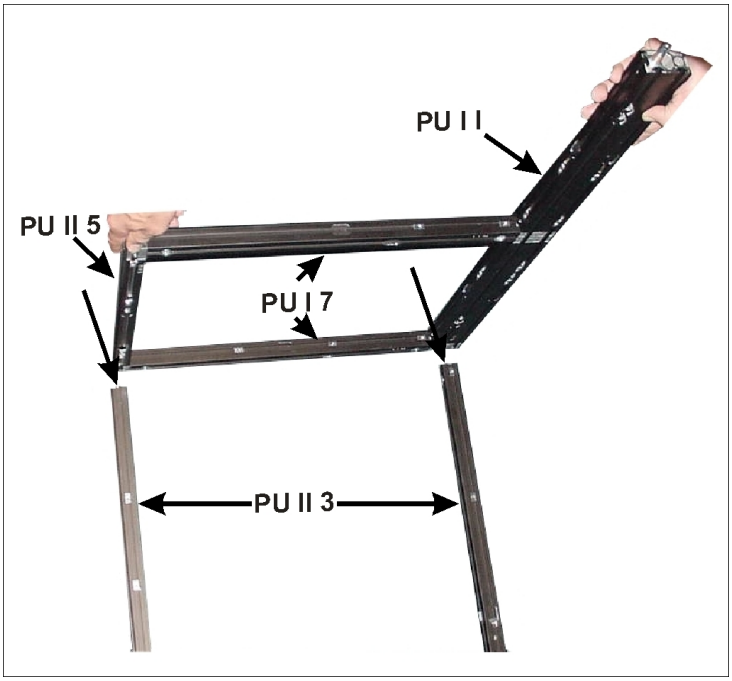


Figure 1-5

- Insert the two lower panels.

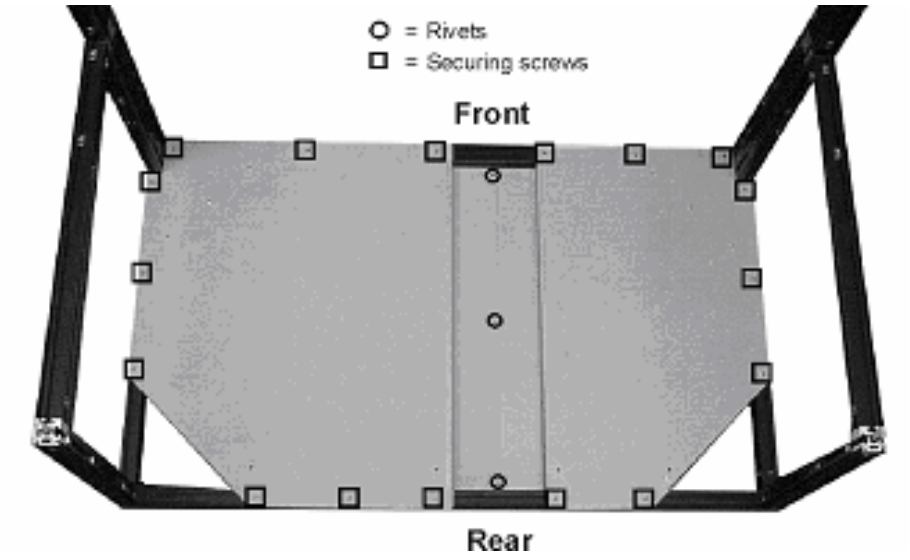


Figure 1-6

The panels must be tightened by securing screws and joined by rivets (see Figure 1-6).

- Install both top profiles PU II 3. One of these profiles is equipped with 3 more counter nuts than the other. This profile must be installed at the front of the support frame between the profiles PU I I and PU I 2.

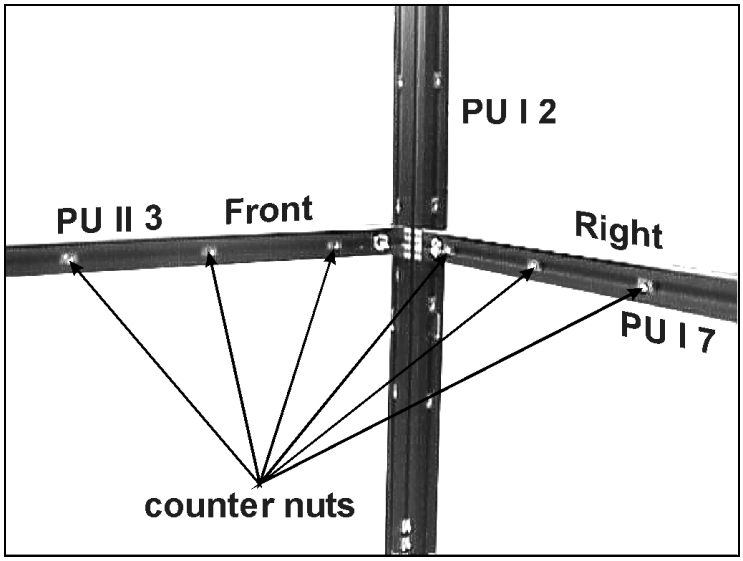


Figure 1-7

- Install the multi socket angle (position see Figure 1-1 [2])

The power strip includes 6xIEC 320 sockets and is rated for a max. current of 10A.

Always take care that the max. rating of the power strip is not exceeded!

In case the installation site is in a 110V country, and in case the display wall is higher than 3 rows, an additional power strip has to be installed.

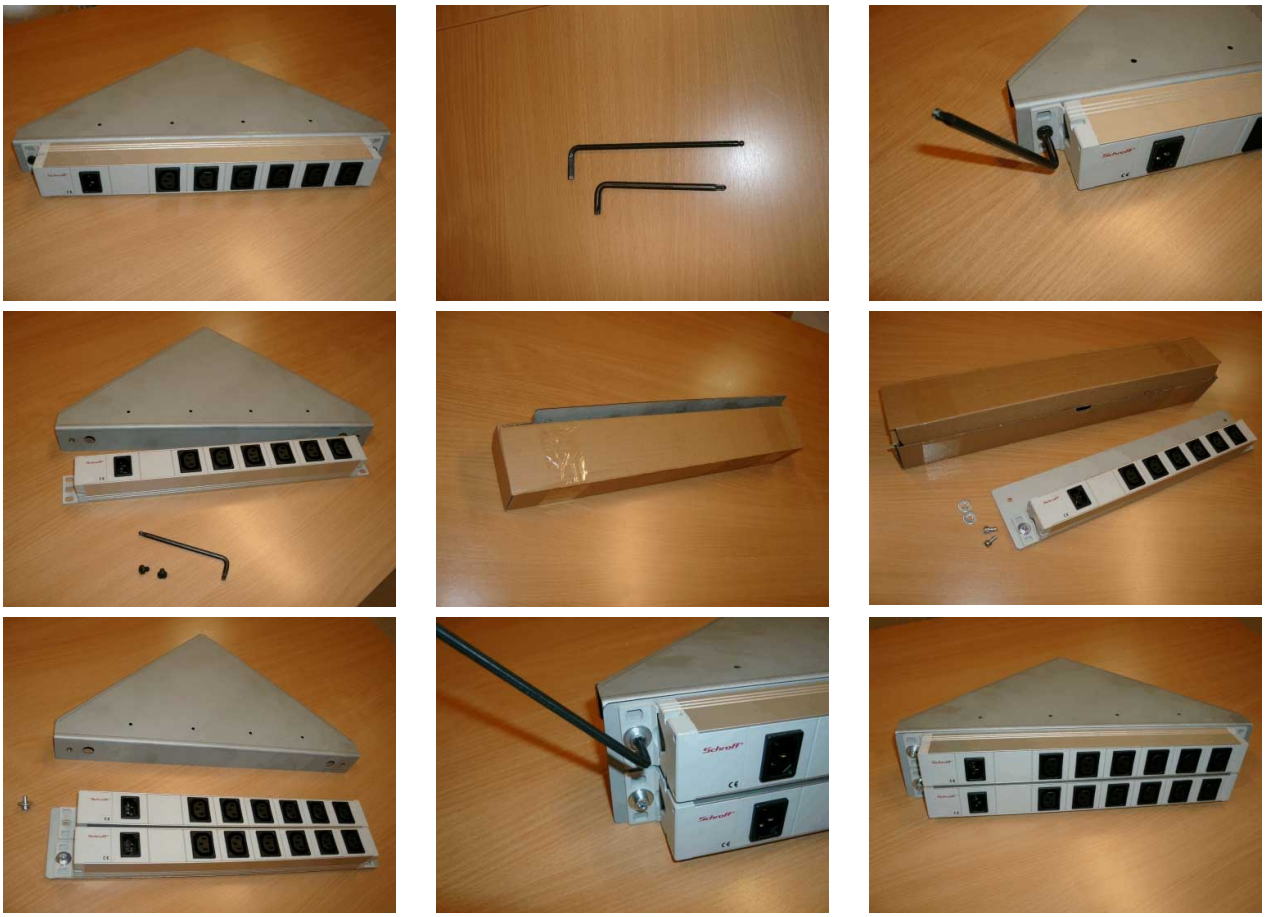
Of course the two power strips may not be connected in serie!

In 110V countries, at max. 3 darkboxes may be connected to a power strip!

In case a second power strip is required, proceed as follows:

- De-mount the power strip attached to the multi socket angle.
- Unpack the second power strip: it is already attached to the metal base plate.
- Fix the de-mounted power strip to the metal base plate of the second power strip.
- Attach the metal base plate to the angle bracket.

The following picture sequence shows the procedure stept by step:



- Install the multi socket angle (position see Figure 1-1 [2])

Figure 1-8

- Install the reinforcing brackets (see Figure 1-1 [1]). If the support is higher than 875 mm these brackets look different, but the install procedure is exactly the same.

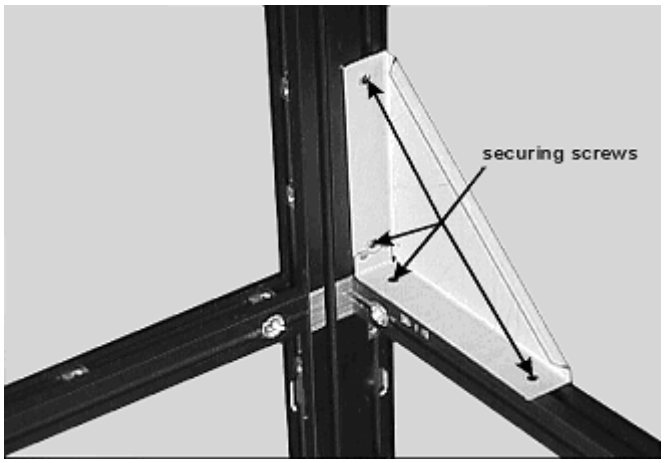


Figure 1-9
Installation of reinforcing angle

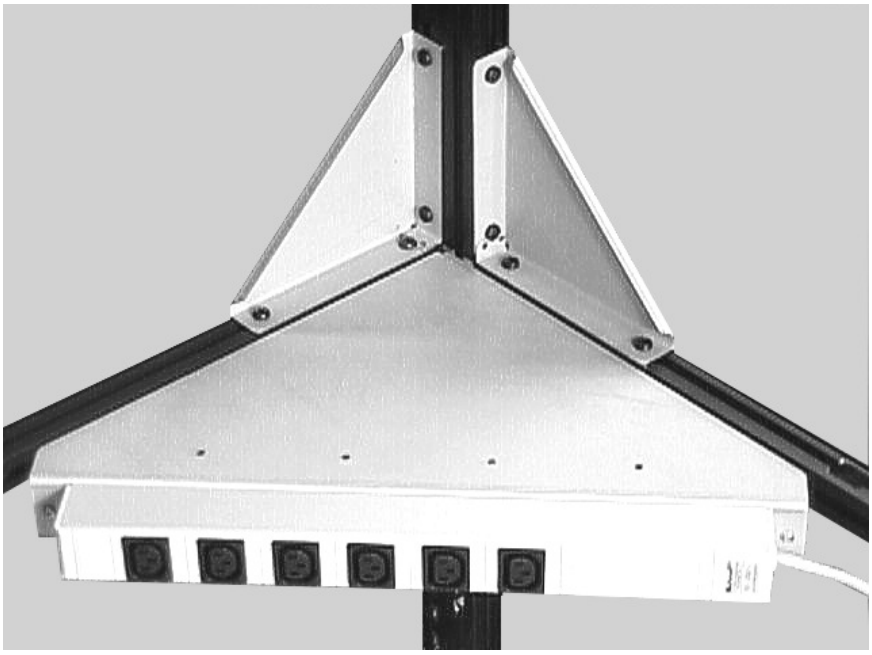


Figure 1-10

- Insert the adjustable feet.

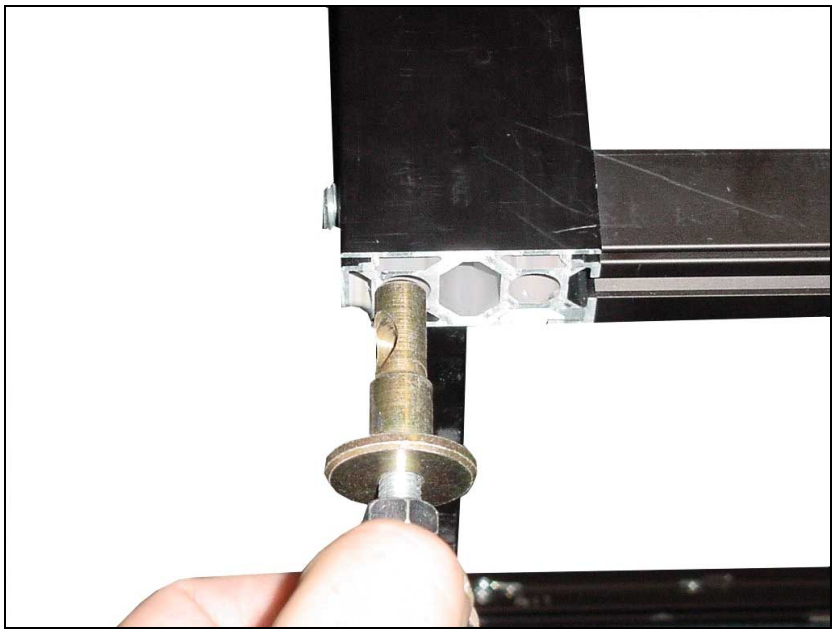


Figure 1-11

Figure 1-12
Rear view of complete support frame

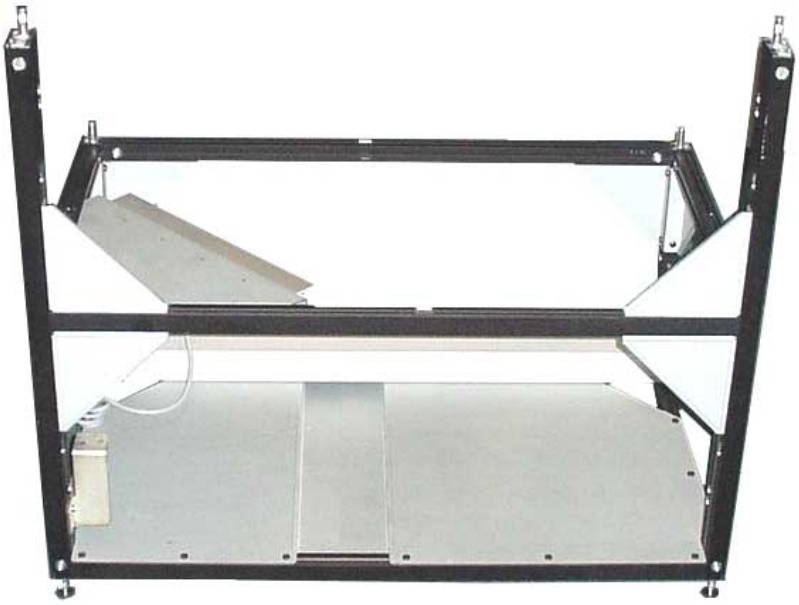


Figure 1-13
Front view of complete support frame

2 Set up of OverView mD

This section describes the set up of OverView mD

Two engineers are required to set up the system.

The room in which the installation is carried out should already have been cleaned.

The set up comprises the following steps:

- Installation of supporting frame.
- Installation of dark-boxes.
- Installation of screen module.
- Installation of illumination unit
- Installation of projection unit
- Optical adjustment

2.1 Set up of Supporting Frame

The following tools are required to set up the supporting frame:

Size 5 and 6 hexagon keys.

Size 12 and 13 fork wrenches.

Size 10-socket spanner.

Precision spirit level.

Proceed as follows to set up a linear arrangement:

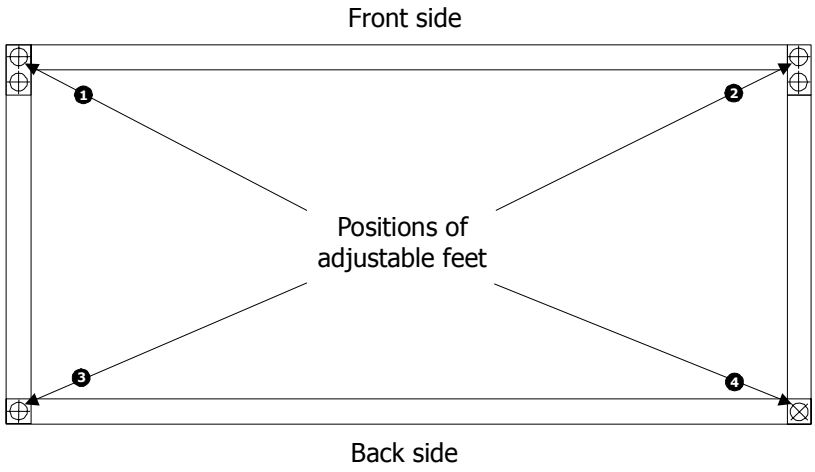


Figure 2-1
adjustable feet

- Unpack supporting frame, screw in the adjustable feet as far as possible, and position frames at required place.
- Adjust the supporting frame.

  Using the adjustable feet 1 and 2, first adjust the front axis of the first supporting frame exactly horizontally (use precision spirit level). Secure feet using counter nuts.

  Subsequently align the depth axis exactly horizontally using adjustable feet 3 and 4. Also secure the feet using counter nuts.

  Once the supporting frame has been aligned, unscrew the feet 5 and 6 until they support the load. Carefully check that the alignment of the supporting frame is not changed in the process (check using spirit level).

  First adjust supporting frame 1, and then align and adjust the adjacent frames with respect to this.
- Attach the supporting frames to the floor via the lower anchoring devices

- Screw the supporting frames together (size 10 socket spanner and size 5 hex key).
- Be sure that the 2 frames are exactly adjusted (check area).

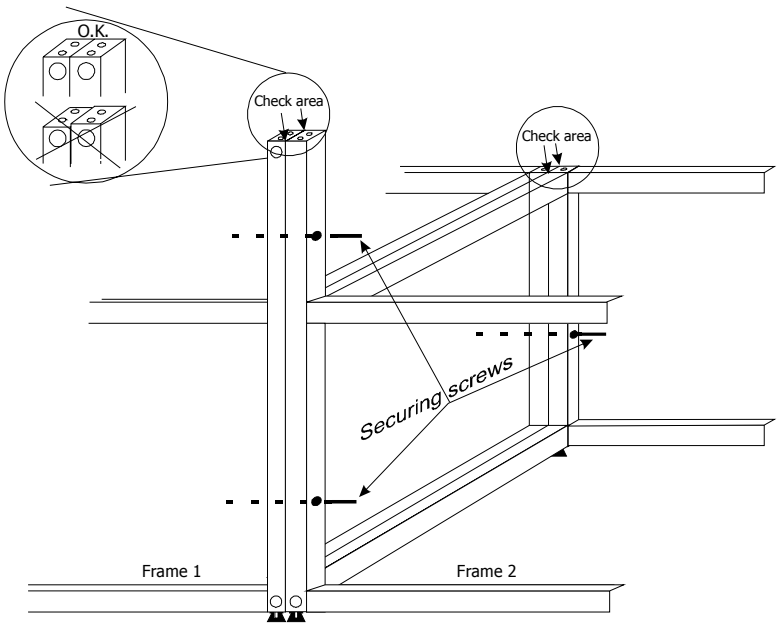


Figure 2-2
position of securing screws and check area

In order to assemble a polygonal arrangement, proceed as follows:

- Concerning the feet adjustment of the supporting frames proceed as mentioned above.
- Screw the supporting frames together using the polygonal kit (see Figure 2-3). Don't tighten the securing screws.

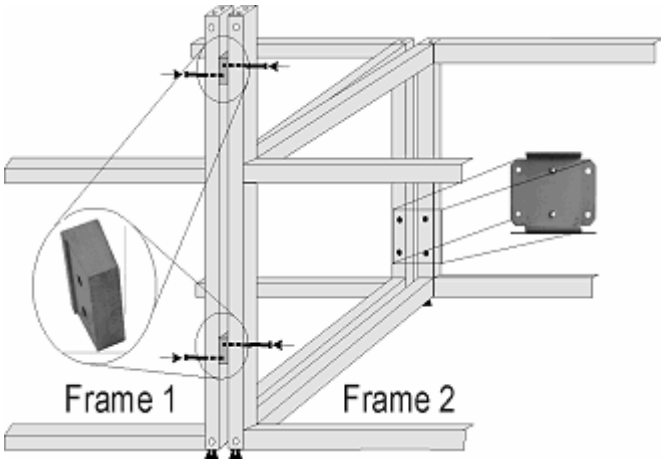


Figure 2-3
polygonal installation front view

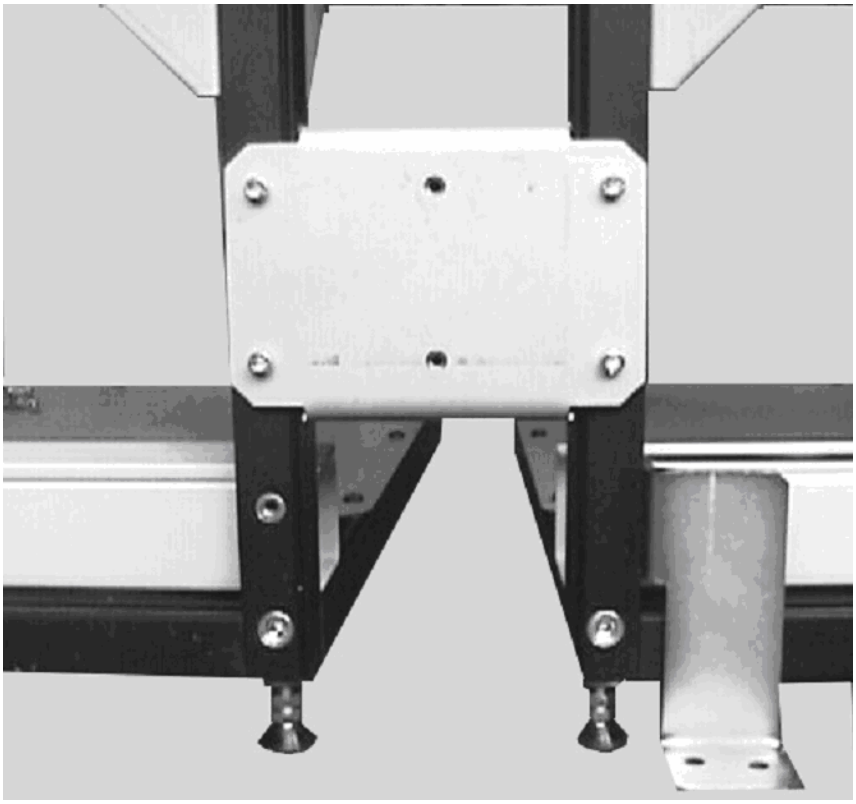


Figure 2-4
Polygonal installation of support rear view

2.2 Set up of Dark Boxes

When assembling the dark boxes, take special care that adjacent dark boxes are fitted exactly lined up.

The following tools are required when assembling the dark boxes:

Size 5 and 6 hexagon keys.

Size 10 socket spanner.

Size 12 and 13 fork wrenches.

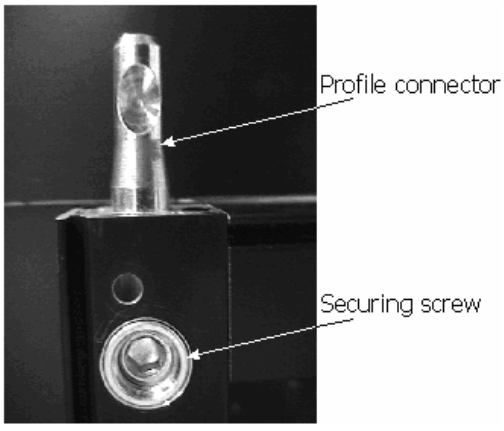


Figure 2-5
profile connector

- Insert profile connectors into the corner profiles of each supporting frame and tighten securing screws (size 6 hexagon key).

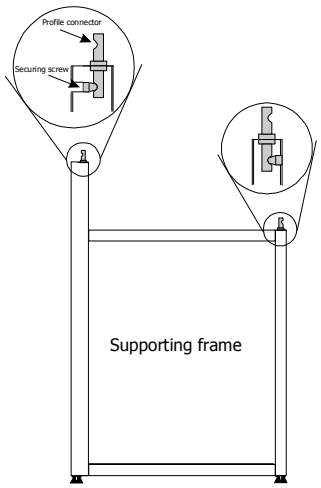


Figure 2-6
profile connectors

- Unpack the dark boxes.
- Remove the two covers from the backside of each dark box.
- Place the dark boxes of the first row onto the profile connectors of the supporting frame.

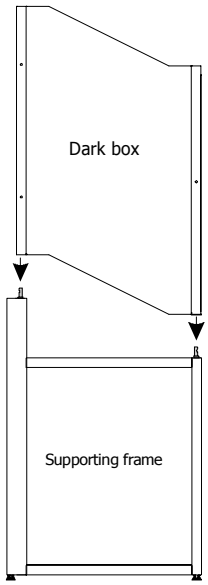


Figure 2-7
Installing dark box onto the supporting frame

- Screw the dark boxes together through the holes in vertical profiles (only linear arrangement)
- Screw the dark boxes together using the polygonal connector kit (polygonal arrangement).

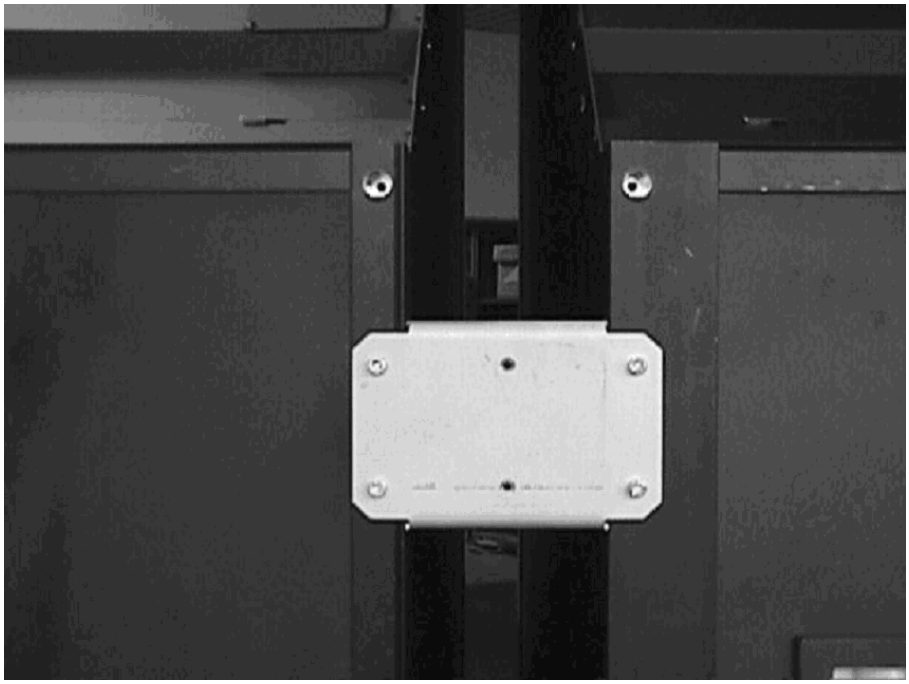


Figure 2-8
Polygonal installation of dark boxes rear view

- Use the polygonal template to align the two dark boxes. The two profiles (A + B) must fit exactly together with the template (polygonal arrangement).

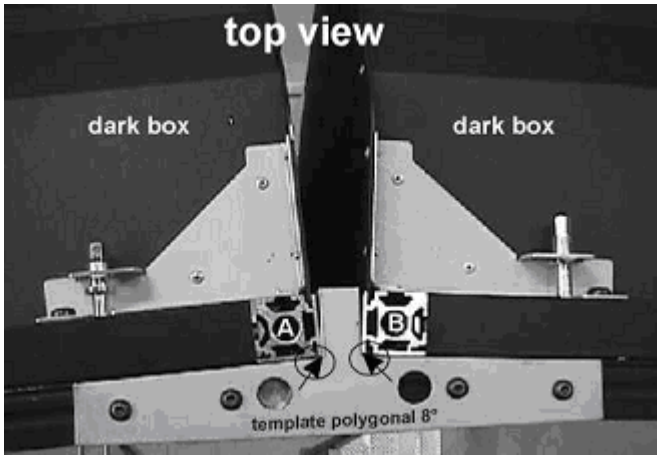


Figure 2-9
polygonal alignment of dark boxes

- Insert profile connectors into the corner profiles of each dark box of the first row and tighten securing screws (size 6 hexagon key).
- Place the dark boxes of the second row onto the profile connectors of the dark boxes at the first row.

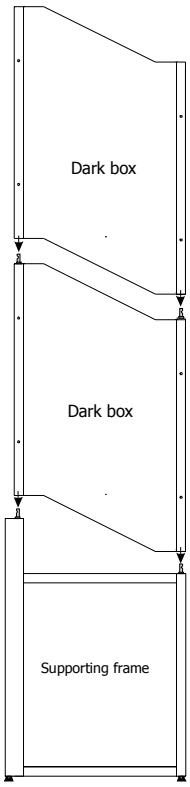


Figure 2-10
Installation of the second row

- Screw the dark boxes together as mentioned above (see Figure 2-10).
- If the configuration consists of more than two rows of dark boxes the system have to be fixed to the wall.

2.3 Installation of Safety Brackets

- Before the installation of the safety brackets check again the position of the supports.
- Each support has to be anchored by two safety brackets on the floor to avoid any movement.

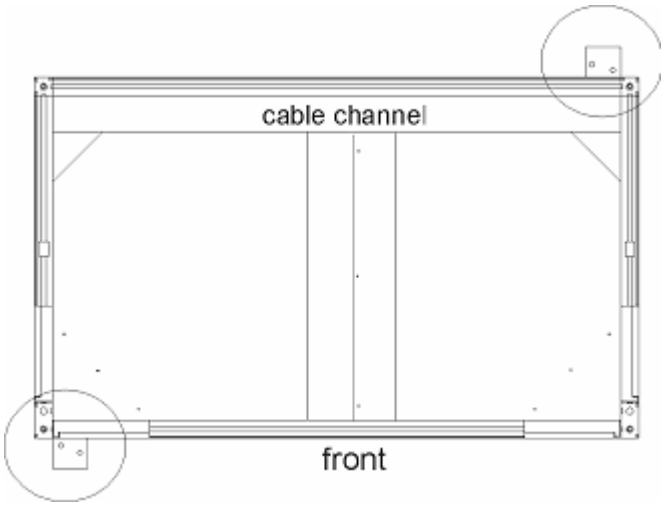


Figure 2-11
Position of safety brackets

- The safety brackets have to be fixed to the floor by one securing screw and two securing screws on the profile.

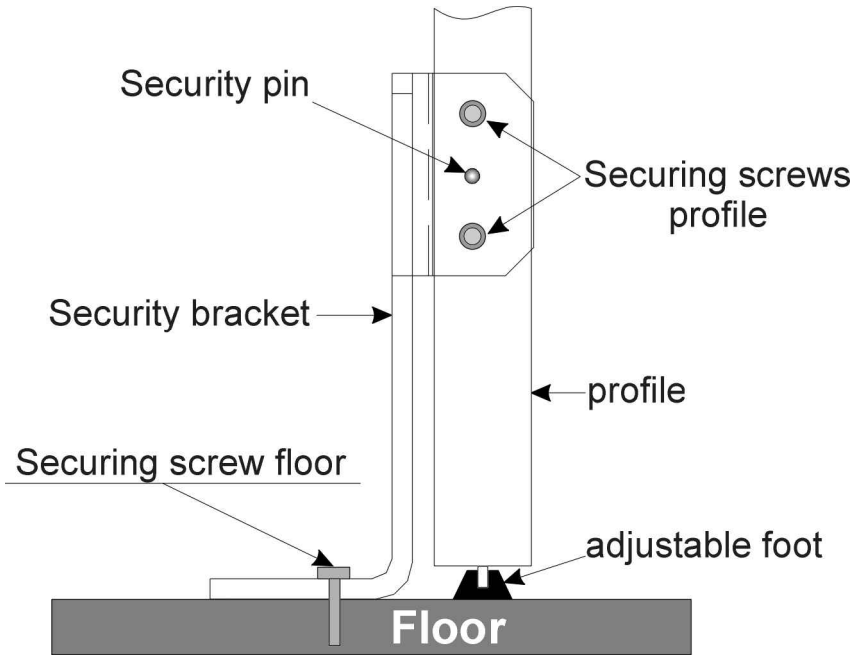


Figure 2-12
How to install the safety bracket

- Use a drill bit size 4.9mm to drill a hole in the profile in the position of the security pin.
- Force the security pin (size 5x32mm) into the hole.

2.4 Grounding of the structure

Every support of OverView comes with a grounding kit which consists of a grounding wire (5m), the required fixation material and the label:

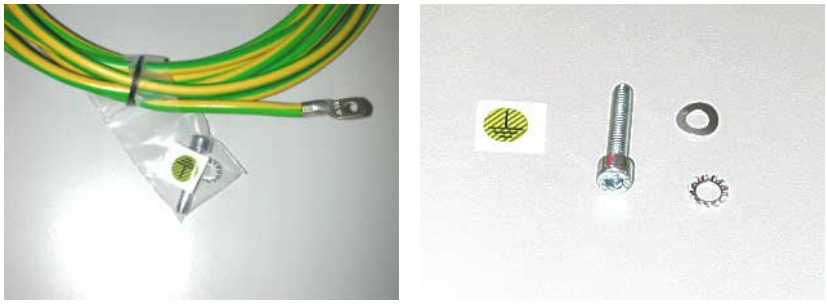


Figure 2-13
grounding kit

The wire has to be connected on a vertical profile of the support. The following picture shows the connection point – at this position, from the backside of the profile, a counter nut is attached.

Figure 2-14
where to fix the grounding cable

Fix the grounding wire to the support according the instruction shown below and attach the label above the connection point:

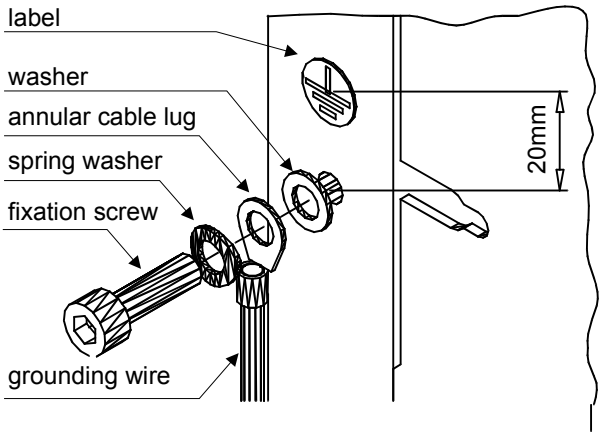


Figure 2-15
connecting the grounding cable to the support

At least every second projection module has to be grounded! The connection of the grounding wire to the power net of the building has to be done by a qualified electrician of the customer!

2.5 Pick up the protective foil of the mirror

The following figure shows how to pick up the protective foil of the mirror.

Only pull parallel to the mirror to prevent it from vaulting!

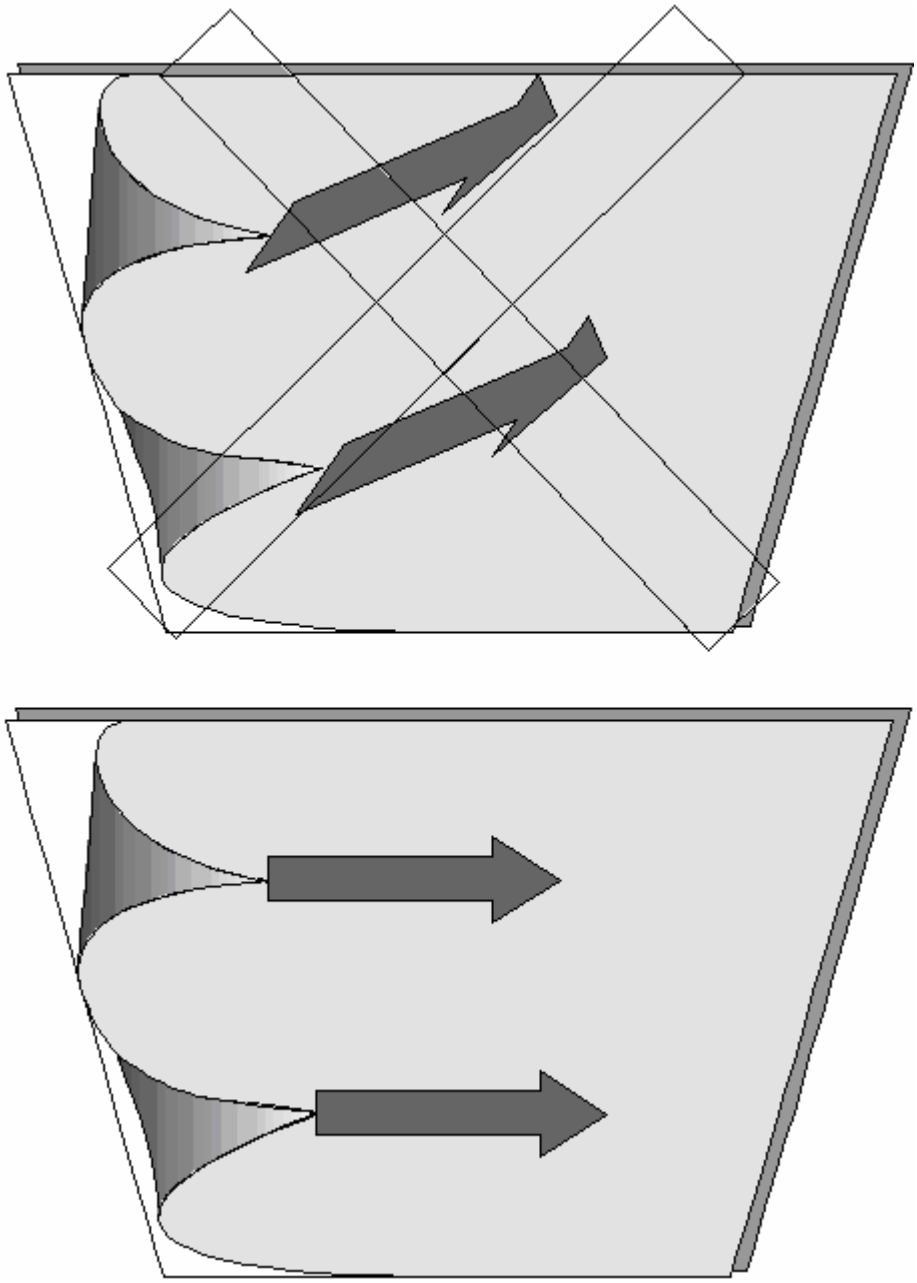


Figure 2-16
How to remove the protective foil

3 Installation of Screen Module

The screen modules are precision optical components! Do not touch with your bare hands.

Unpack always with two persons!
Use fabric gloves!

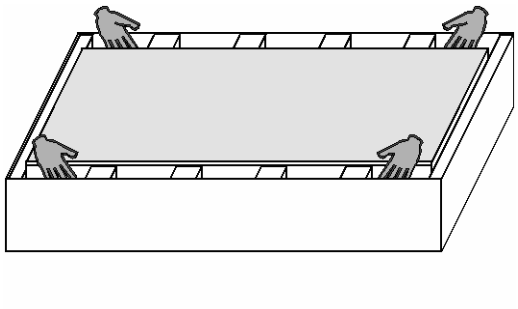


Figure 3-1
Unpacking a screen module

Lift simultaneously on both sides - don't tilt.

Unpacked screens shall directly be installed! Don't park on the floor!

Danger of breaking!

The following tools are required to assemble the screens:

Cloth gloves.

Long hexagon key size 5 mm.

Proceed as follows to assemble a screen module:

- Remove the covers at the rear of the dark boxes.
- Pull on cloth gloves.
- Unpack screen module.

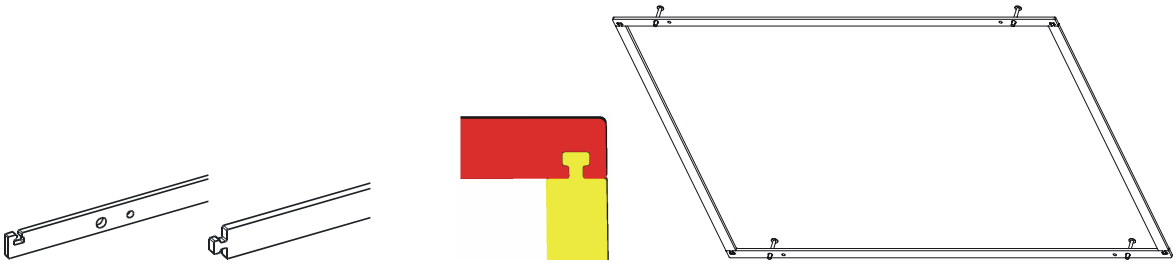
3.1 Installation of the standard screen module for systems with SXGA emulation

In case of an SXGA system with an SXGA+ projection unit and a Multi Input Module, a spacer has to be mounted between the darkbox and the screen to enhance the depth.

The spacer comprises 2 horizontal and two vertical profiles which have to be assembled. This frame then is hung on the pins of the darkbox.

Subsequently the screen module is hung on the guide pins, and then the spacer frame together with the screen is fixed by 4 M8x45 bolts.

Do not insert the bolts in the spacer frame! The picture below only demonstrates where the bolts will fix the spacer frame. Actually the bolts are inserted from inside the darkbox and fix the spacer frame and the screen module!



- Assemble the spacer frame (no bolts!) and hang it on the 4 guide pins on the front of the dark box.
- Place also the screen module on the guide pins (Figure 3-3) on the front of the dark box. Be careful to ensure that the edges of the screens are not damaged.

Figure 3-2
Screen module

- Screw on the screen module with an hexagon key size 5 mm **(torque 1-2 NM).**

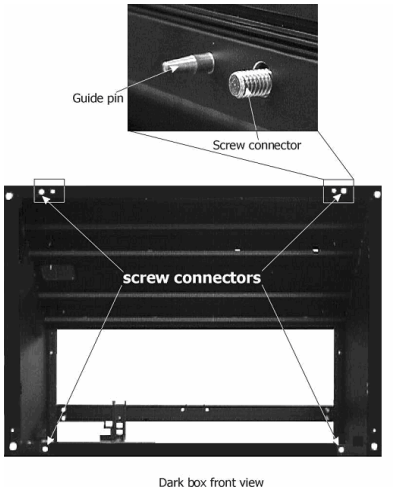


Figure 3-3
positions of screw connectors

- The spacer frame and the screen module is held by four screw connectors fitted in the dark box. Figure 3-3 shows the positions of these screws at the dark box.

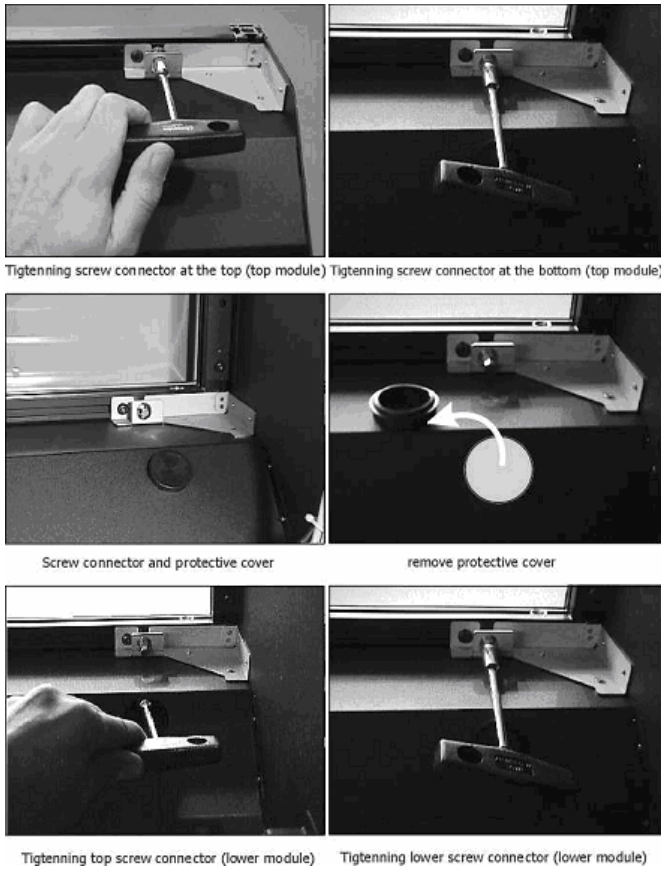

Tigtenning screw connector at the top (top module)
Tigtenning screw connector at the bottom (top module)
Screw connector and protective cover
remove protective cover
Tigtenning top screw connector (lower module)
Tigtenning lower screw connector (lower module)

Figure 3-4
securing screen module

- Align screen modules and lock screw connectors. Take care not to de-form the spacer frame! The edges of the screens must be parallel and separated by 0.4 to 1.2 mm (expansion gap).

3.2 Installation of the standard screen module

- Place the screen module on the guide pins (Figure 3-3) on the front of the dark box. Be careful to ensure that the edges of the screens are not damaged.

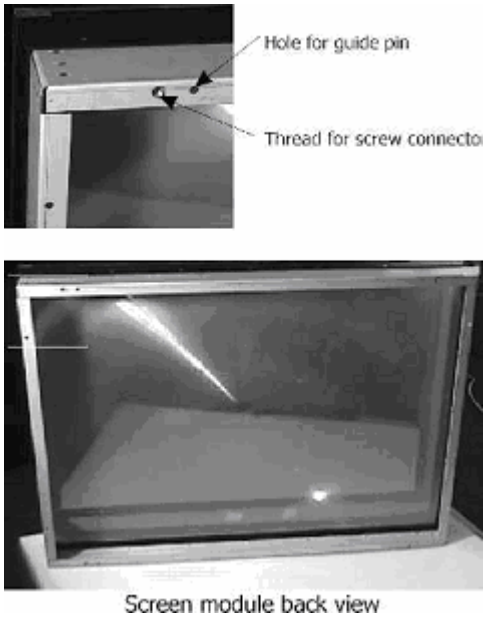


Figure 3-5
Screen module

- Screw on the screen module with an hexagon key size 5 mm **(torque 1-2 NM).**

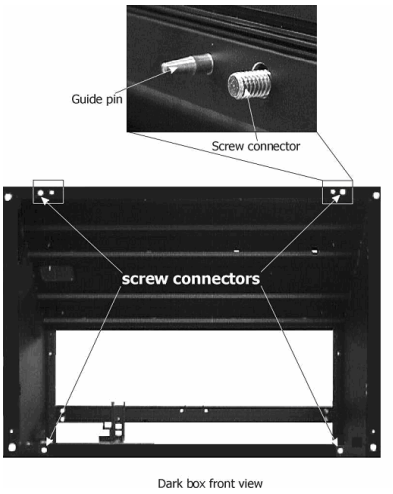


Figure 3-6
positions of screw connectors

- The screen module is held by four screw connectors fitted in the dark box. Figure 3-3 shows the positions of these screws at the dark box.

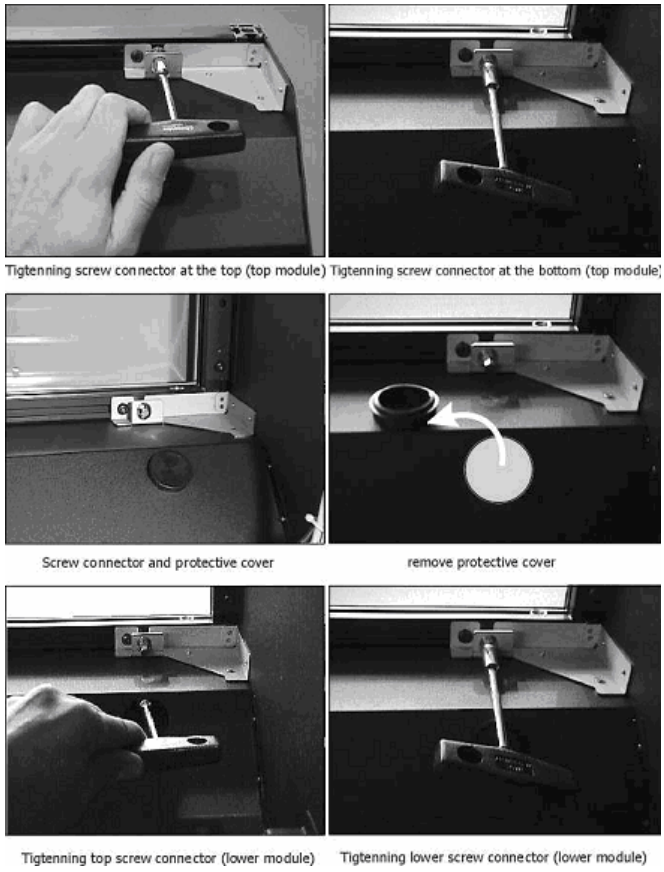
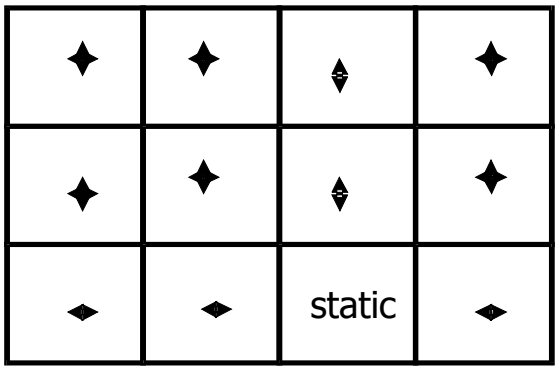

Tigtenning screw connector at the top (top module)
Tigtenning screw connector at the bottom (top module)
Screw connector and protective cover
remove protective cover
Tigtenning top screw connector (lower module)
Tigtenning lower screw connector (lower module)

Figure 3-7
securing screen module

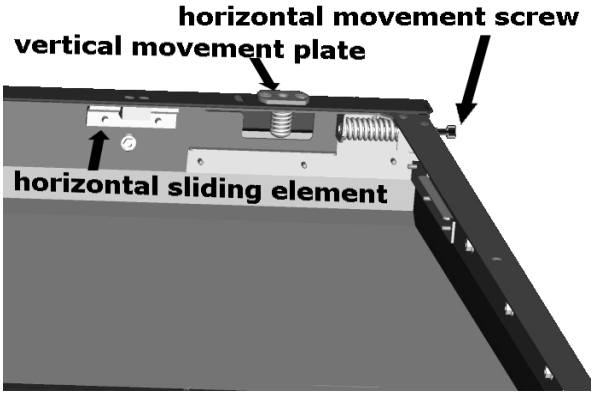
- Align screen modules and lock screw connectors. The edges of the screens must be parallel and separated by 0.4 to 1.2 mm (expansion gap).

3.3 Installation of the seamless screen module



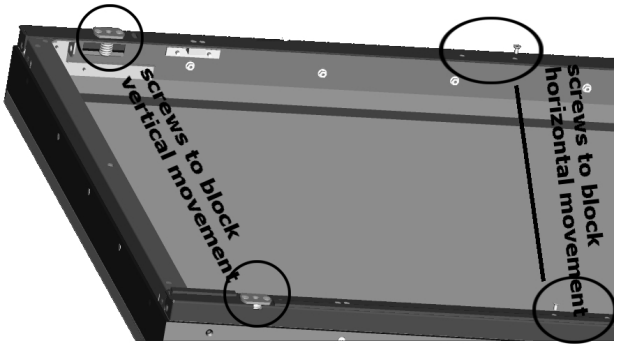
Screen concept:

There are 4 different states of movability of one module depending on the position in the wall. There is one complete static module in the centre of the base row; the other base row modules can move in horizontal direction; and the modules above the static module can move in vertical direction. For all other modules of a display wall, movement in vertical and horizontal direction is possible.



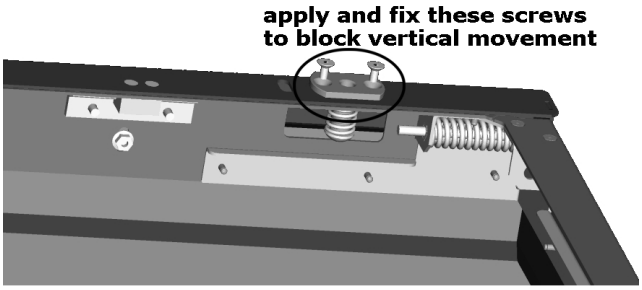
In horizontal direction, movability is realized by horizotal sliding elements.

In vertical direction, movability is realized by vertical movement plates.



When delivered, all screens feature full movability! The screws to block movability in horizontal and/or vertical direction have to be installed according the position of the screen in the display wall.

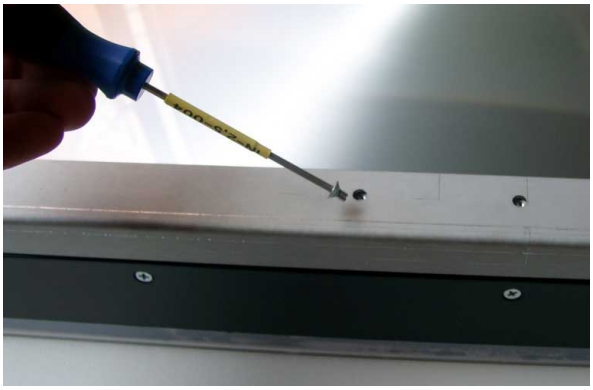
The picture shows the position of the screws.



To block vertical movement, 4x2 screws have to be applied and fixed.

To block horizontal movement, 2x1 screws have to be applied and fixed, one at each side.

Make sure that the two screws are diagonally positioned!



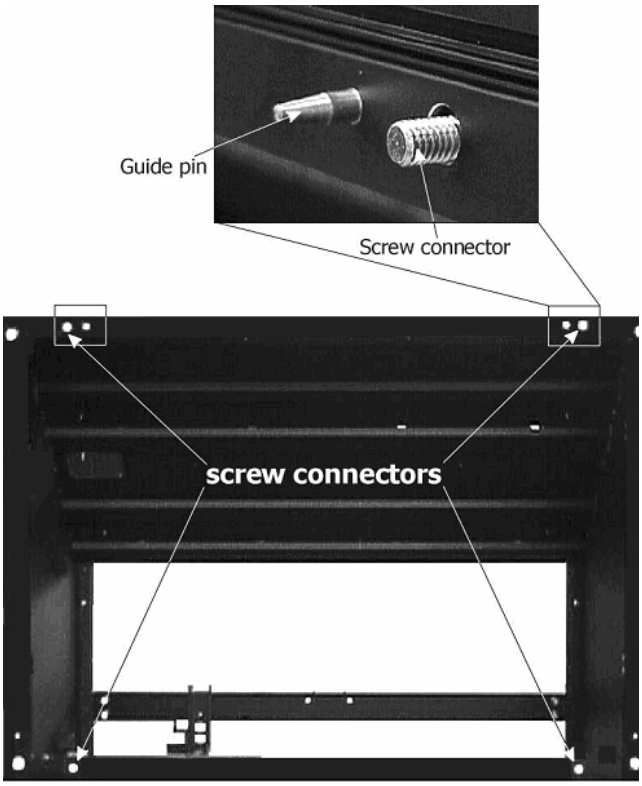
0 screws	0 screws	2 screws	0 screws
0 screws	0 screws	2 screws	0 screws
8 screws	8 screws	static 10 screws	8 screws

All screens are delivered with full movability, i.e. no screws attached.

The number of screws to be applied and fixed depends on the position of the screen in the display wall.

Depending on the position of the screen in the display wall, zero, 8 (4x2), 2 (2x1) or 10 (4x2 + 2x1) screws have to be installed.

Step1



Dark box front view

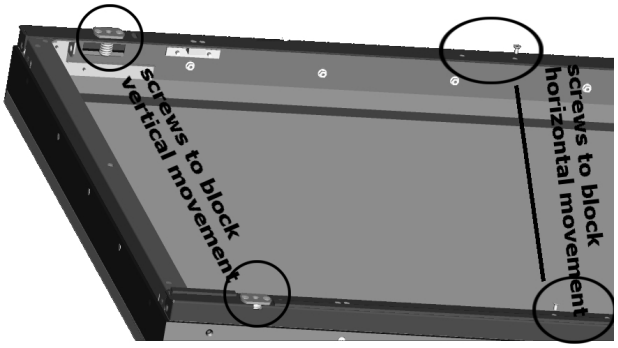
Please note:

Installation of the screens starts on the *bottom* row.

Every darkbox provides the fixation facilities for the screen. The fixation facilities comprise 4 screw connectors (one at each corner), and in addition next to the top screw connectors a guide pin to put on the screeen.

The fixation facilities and their use are the same for the screen modules and the seamless screens.

Step2

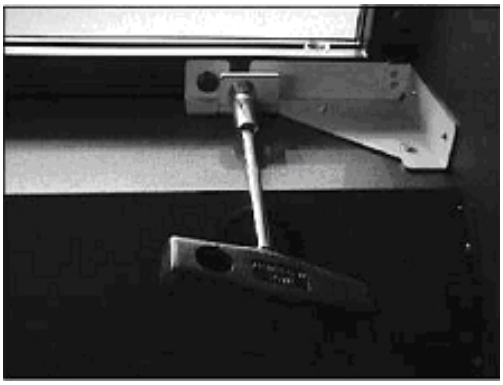


Start installing the static screen:

The static screen is the screen in the mid of the bottom row.

In case of an even number of colums (no "center module") the static screen is the first screen of the right half of the display wall, seen from front.

For the static screen, apply and fix all 10 screws: both, movability in vertical and in horizontal direction has to be locked!



Step3

When all screws have been applied and fixed, place the screen module on the guide pins on the front of the dark box. Be careful to ensure that the edges of the screens are not damaged.

Screw on the screen module with an hexagon key size 5 mm (torque 1-2 NM).

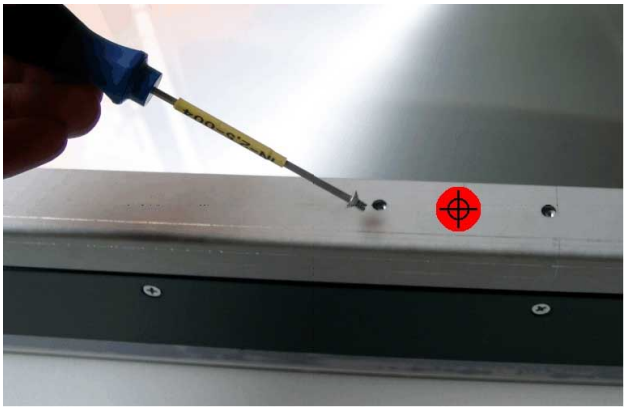
The picture on the right shows tightening one of the screws at the bottom.

Try to fix the screen centered to the darkbox (visual check)

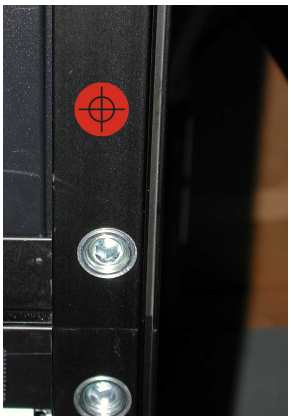
Tighten all 4 screws!

Completely remove the two horizontal movement screws.

Step4



The static screen itself and also the projection module equipped with the static screen has to be labeled! Wrt screen, put the label between the two facilites to block horizontal mevement.



For the label and the position of the label on the profile see picture on the right!

It is mandatory to stick to the rule mentioned above and also to put on the label.

In case the screens have to be removed (either the display wall has to be de-installed, or either a screen has to be replaced) there is a high risk of crashing all screens if the static screen is not known!

Mark the static screen!

The static screen defines the movability of all screens in a display wall.

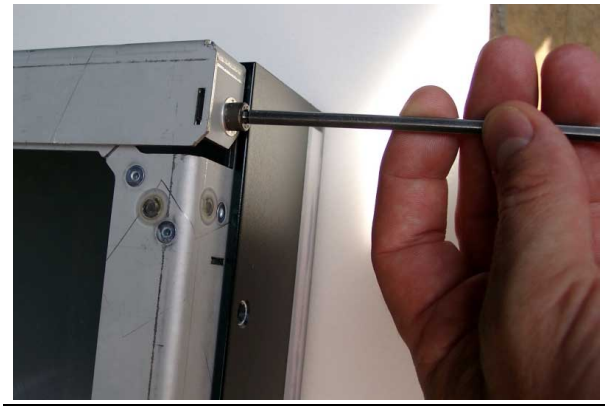
Dismounting a screen requires the knowledge of it's movability, cf. De-mounting the seamless screens

Step5

All other screens of the bottom row are installed following the procedure below:

Apply the 4x2 screws to block the vertical movement.

Step6



Screw in the horizontal movement screws until the screen front is moved approx. 1mm against the vertical frame towards the horizontal movement screw.

Hang the screen on the pins. Make sure that the horizontal movement screws always show towards the border of the display wall – this means that the left neighbor of the static screen is rotated by 180° compared to the right neighbor of the static screen.

Lock the 4 securing screws from behind.

The horizontal movement screws of all screens right to the static screen look in the same direction.

The horizontal movement screws of all screens left from the static screen also look in the same direction, but opposite to the horizontal movement screws of the screens right to the static screen.

Step7

After locking the screen there will be a screen gap to the neighbored screen of around 1mm.

To close this gap, drill out (turn left) the horizontal movement screw.

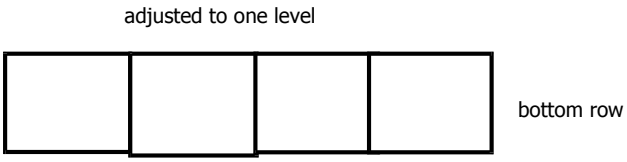
The screen is now moving and the gap will be closed.

Never drill only one of the horizontal movement screws completely out before turning the seconed!

Make several turns on one screw and than go to the second, turn it, go back to the first ... continue until the gap is closed.

Step8

Completely remove the horizontal movement screws!



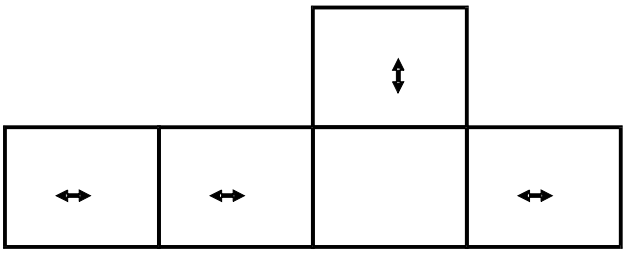
Step9

When all screens of the bottom row are installed, level the screens!

Loosen the 4 locking screws to move the screen slightly in vertical direction.

Adjust the vertical position of the screens that the upper border of the front elements make a straight line.

Step10



Install the screens of the second row:

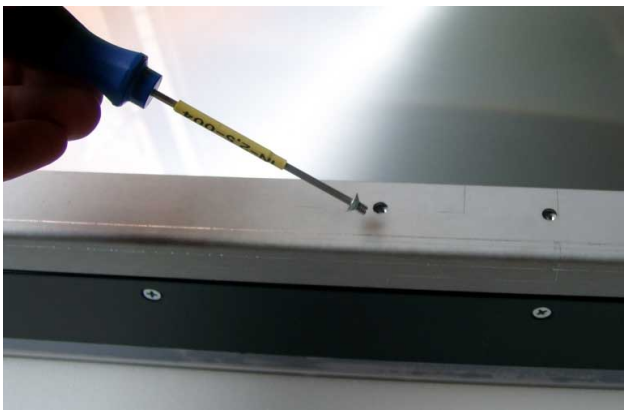
Start with the screen on top of the static screen.

Lock it in horizontal direction by applying 2x1 screw diagonally.

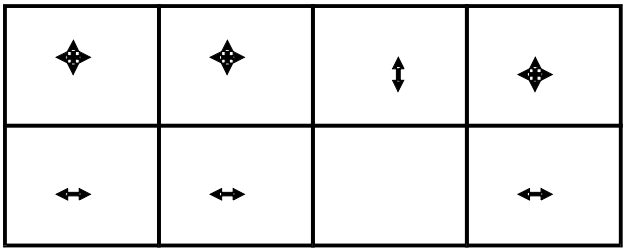
Take care that all 4 vertical movement plates are in their nominal position, i.e. the drillings of the plate flush with the threads of the frame.

Mount the screen that its position is symmetric and that it is touching the screen below.

Completely remove the horizontal movement screws.



Step11



Install the other screens of the second row.

These screens must not be locked in any direction! Therefore no screws have to be applied!

Screw in the horizontal movement screws until the screen front is moved approx. 1mm against the vertical frame towards the horizontal movement screw.

Since these screen feature full movability, no screws have to be applied and fixed.

When the screens are mounted and the gap to the adjacent screen closed by turning the horizontaol movement screws, completely remove these screws!

Step12

The leveling of the upper border of that row and the rows above is determined just by the tolerance of the screen size which is very tight.

So the leveling should be already quite good.

In case there is still a small gap to the adjacent screen, apply the leveling tape B195707, covering the entire width!

Step13

Installation of the screens for all other rows are identical to installing the screens of the second row:

The screen above the static screen has to be locked in horizontal direction, all other screens must not be locked.

Take care that the screens are locked according their position!

Step14

When all screens are mounted, put all horizontal movement screws into the plastic bag (24 screws per bag) and fix these plastic bags in the darkbox of the static screen using the cable ties! In case the screens have to be de-installed, these screws need to be applied again!

Step15

Now the brushes have to be mounted.

The brushes serve as a light shield and close the gap between the screen module and the darkbox. They have to be glued on all edges of the display wall..

They are flexible to allow the movement of the screens.

The brushes are available in two lengths, one matching the horizontal, the other matching the vertical dimension of the screen module.

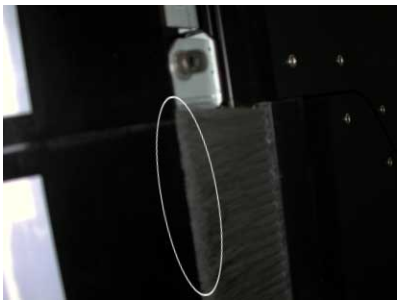
First clean the surface where the brushes have to be fixed with alcohol to remove any grease!

Step16

Start with the vertical brush on the bottom row!

Remove the protective tape.

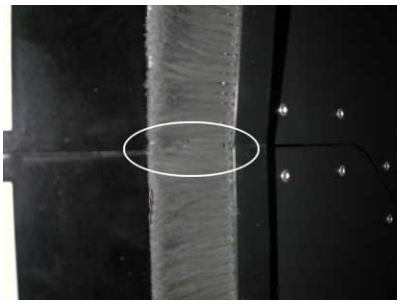
Step17



Position and align the brush to the top edge of the dark box.

Carefully fix the brush to the darkbox. Take care that the bristles are aligned with black metal border of the screen!

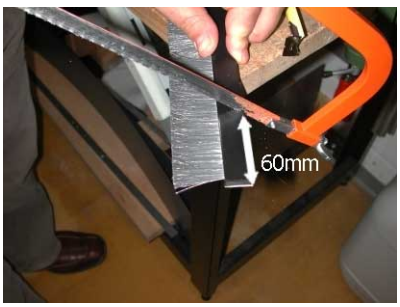
Step18



Proceed accordingly to attach the brush on the next module.

Take care for a neat and proper joint!

Step19



When all the vertical brushes are attached, proceed with the horizontal brushes on the bottom row.

Please note:

Since the brush is in-between the support profiles, it has to be cut by 2x30 = 60mm.

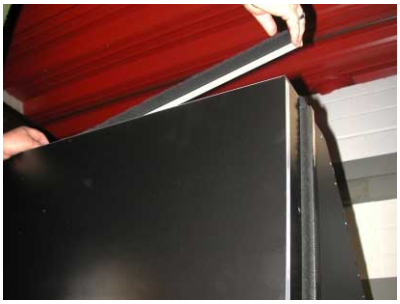
Use a saw to adjust the length!

You have to shorten half of the horizontal brushes!

Step20

Position, align and attach the shortened brush on the bottom of the module in-between the support profiles. Take care that the bristles are aligned with the black metal border of the screen to make sure that there is no light gap!

Step21

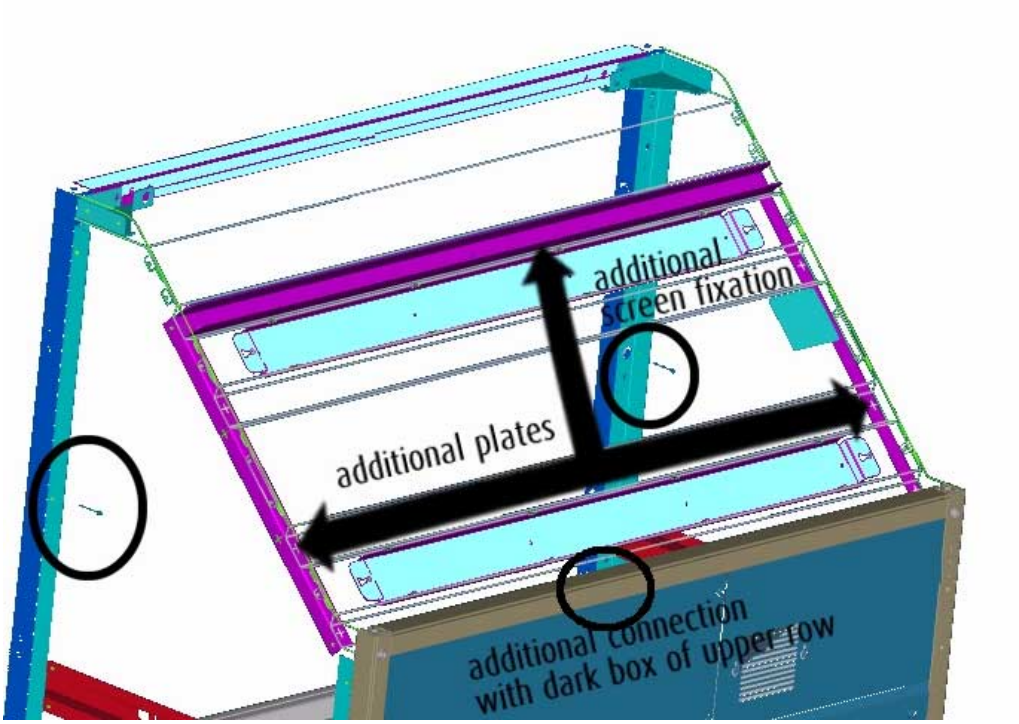


Finally attach the brushes on the top row! Take care for a neat and proper joint to the vertical brushes!

4 Additional fixation facilities of systems employed with earthquake protection

For special requirements, the OverView mD50 system can be built up using a special support ("earthquake support") and the earthquake protection kit for the dark box.

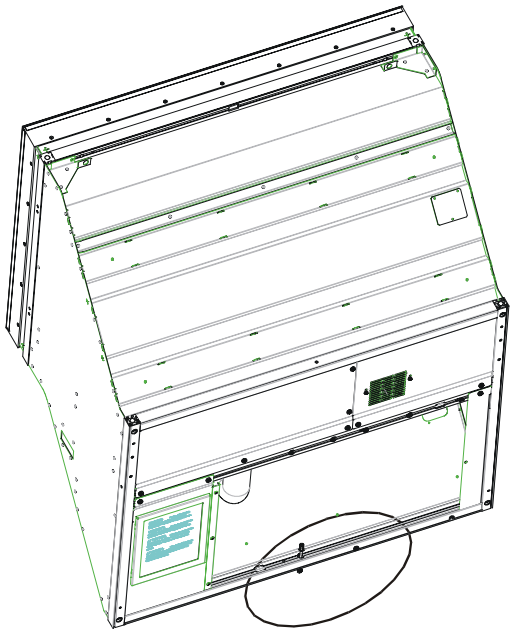
The earthquake protection kit consists of some additional fixation facilities for screws and some additional plates to increase the stiffness of the dark box. This kit is already installed in the factory. However, when building up such a system, it is mandatory that the additional screws are installed in the correct way.

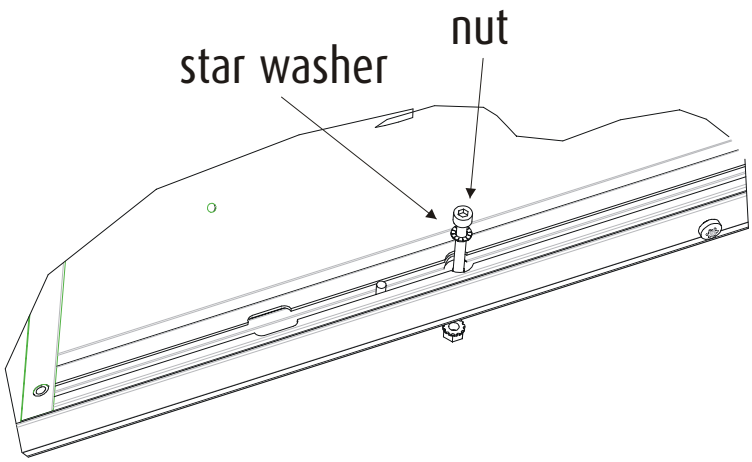


4.1.1 Fixation to the support or to the adjacent dark box of the previous row, respectively.

This fixation is done by means of a screw M6x55 DIN 912 with star washer and nut.

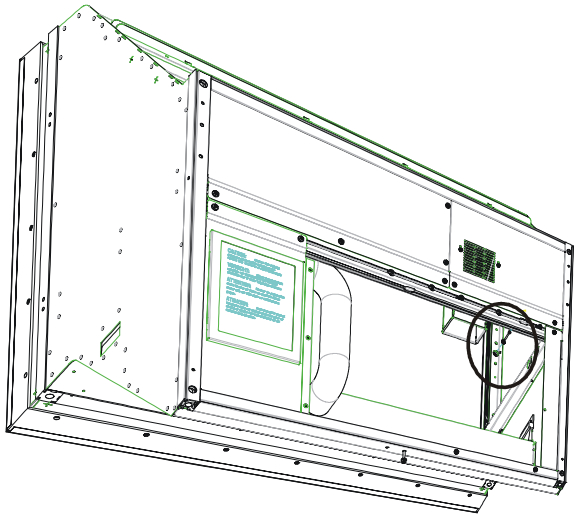
The following pictures show overview and detail of this fixation:

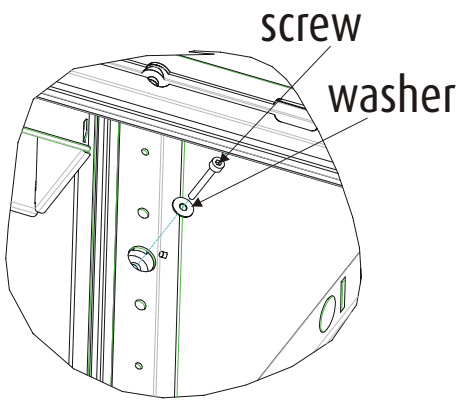


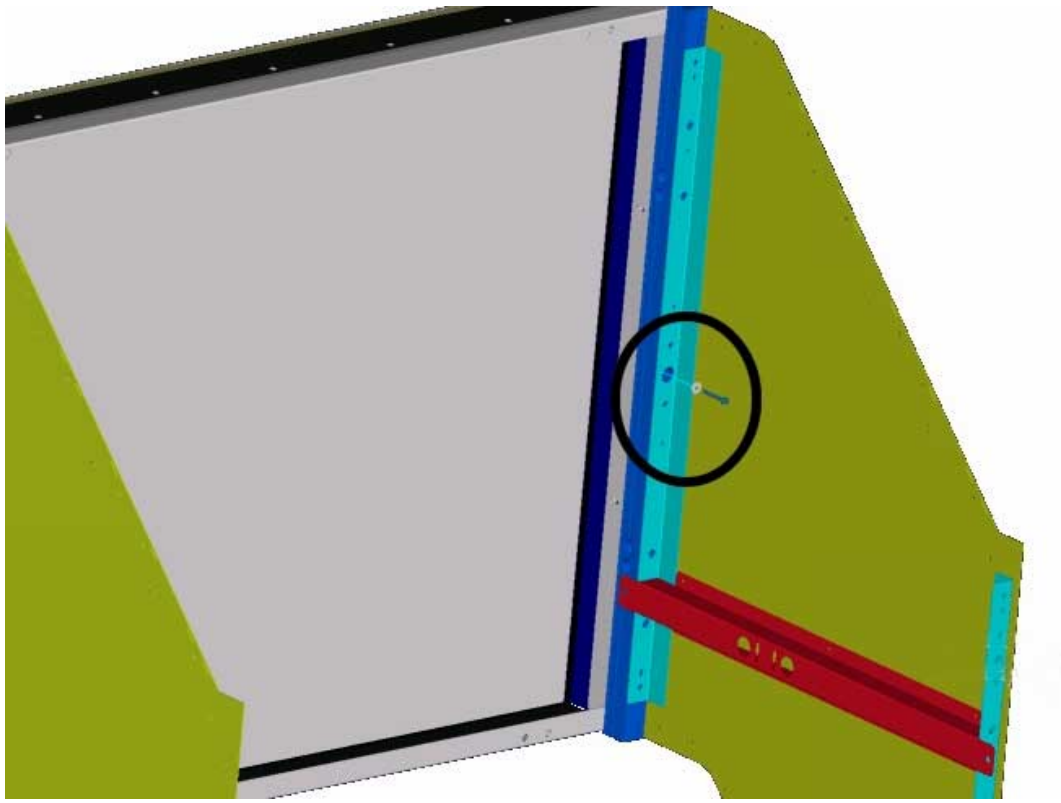


4.1.2 Fixation of the screen frame

After the screen has been aligned, the screen frame is additionally fixed to the left and right vertical profile of the dark box by means of a screw M6x55 DIN 912 with washer. Look at the big picture and the detailed view to see where the additional screws are installed. Of course it is the same for the left vertical profile (seen from behind).







5 Wall fixation

General

The wall fixation comprises some standard parts (brackets, screws) and some project specific parts (profiles).

The wall fixation is available in a linear version and in an A-shape version.

Rules

The display wall has to be fixed to the floor, and in case of (more than) three rows, to the wall, too.

Fixation to the floor only:

In case a system has only to be fixed to the floor, every support is attached on the front side and on the back side. These two anchoring devices are in a diagonal arrangement, see schematics:

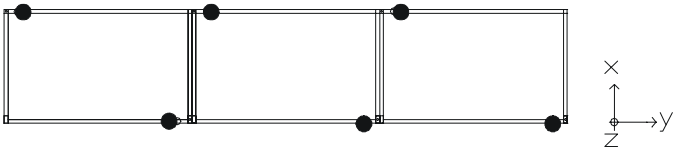


Figure 5-1
fixation on the floor

Fixation to the floor and to the wall:

In case a system has to be fixed to the wall, too, the lower anchoring devices are only applied on the rear side.

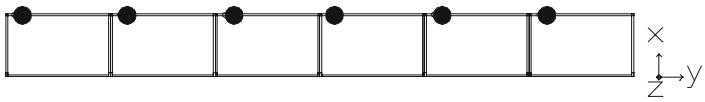
For the upper anchoring devices (wall fixations), the following rules apply for each row which must be attached to the wall:

The fixations are mounted on the inner side of the most left and the most right projection module, too. Within the distance of these fixations, additional fixations are mounted in such a way that the distance between two fixations does not exceed three projection modules, and that the fixations are equally distributed.

The following rows have to be fixed:

Entire height (number of rows)	Fixation attached to row
3 or 4	3
5 or 6	2, 5

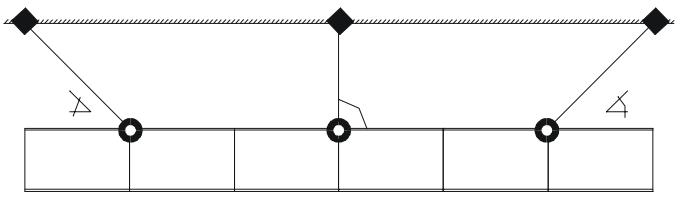
Ground plan



Example:

Since the display wall is attached to the wall, the supports are attached to the floor on the rear side only.

Top view



Wall fixations are attached on the inner side of the most left/right projection module. Since the max. allowed distance between two fixations is 3 modules, one additional fixation is required. This additional fixation is mounted in a way that all fixations have the same distance.

Position of the lower and upper anchoring devices (schematics)

- ● Lower anchor point (e.g. Chemical Anchor Upat UMV 60 M 10 when anchored to concrete)
- ◆ Upper anchor point with wall (A connection has to be chosen that is designed for a maximal resulting traverse force of F=1.0 kN in the dowel vertical and parallel to the Display Wall)
- ○ Upper anchor point Display Wall
- ∠ 30° - 60°

Linear version

The length of the profile is project specific and defined by the distance between the rear side of the display wall and the wall of the building!

The attachment of the profile on the wall of the building allows to be positioned between 30degrees and 60degrees off the straight connection thus also eliminating unevenness of the wall.

The following pictures show a sketch of the installed wall fixation on the display wall:

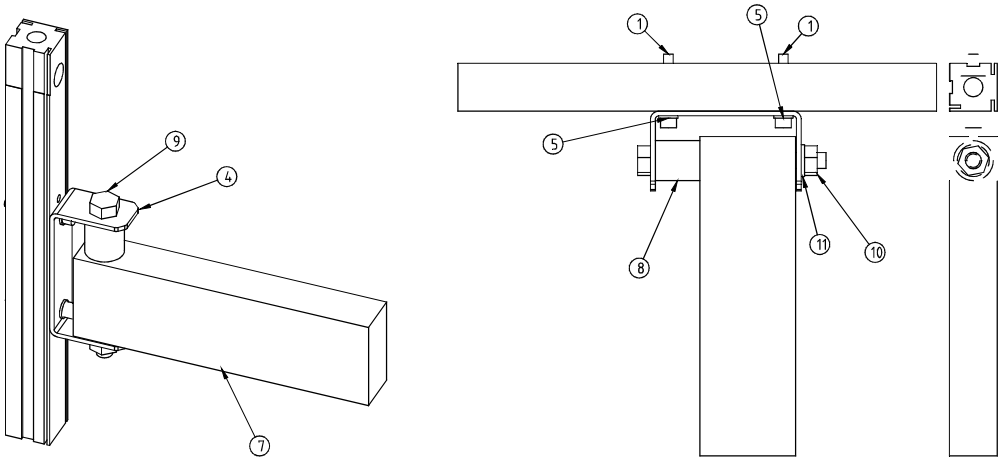


Figure 5-2
wall fixation, linear version

Item no.	quantities	Description
7	1	Profile (length: project specific)
9	1	Screw M10x110
4	1	Fixation bracket display wall side
5	2	Washer U-6-125
1	2	Screw M6x40
8	1	Distance bushing
10	1	Nut M10
11	1	Washer U-10-125

To install the wall fixation at the display wall, proceed as follows:

- Take the fixation bracket [4] and attach it to the profile of the dark box (linear setup of the display wall) using the screws M6x40 [1] and the washers U-6-125 [5]. In case of a polygonal setup, the bracket is attached to the polygonal connection bracket.

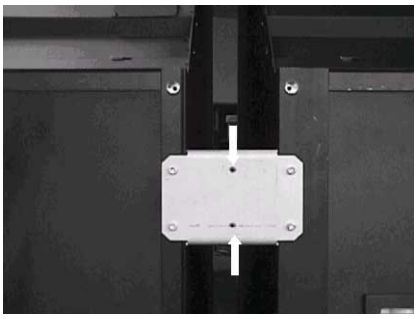


Figure 5-3
connection bracket, fixation points for linear wall fixation

- Position the profile [7] and apply the bushing [8] (either on top of the profile as shown in the drawing, or beneath the profile).
- Insert the screw M10 [9].
- Use the washer [11] and nut [10] to fix it.

The following picture shows a sketch about the fixation on the wall of the building:

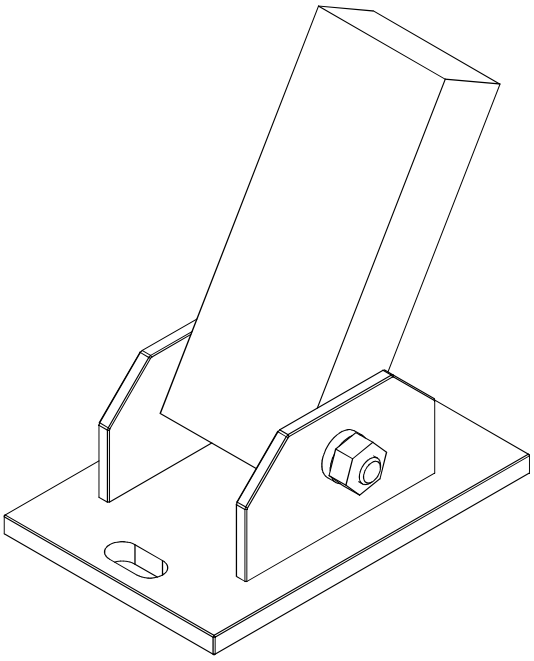


Figure 5-4
wall fixation, side of wall of the building

Attach the wall fixation bracket to the end of the profile by means of M10x85. Use the spring washer and nut to fix it.

- Position the bracket at the wall of the building, and mark the position to drill the holes.
- Remove the profile from the bracket to be attached to the wall of the building (otherwise drilling and fixation is very difficult!).
- Use two dowels FUR 10 to attach the fixation bracket to the wall of the building.
- Reattach the profile to the bracket now fixed to the wall of the building.

A-shape version

The length of the profile is project specific and defined by the distance between the rear side of the display wall and the wall of the building!

The attachment of the profile on the wall of the building allows to be positioned between 30degrees and 60degrees off the straight connection thus also eliminating unevenness of the wall.

An assembled A-shape version looks like this:

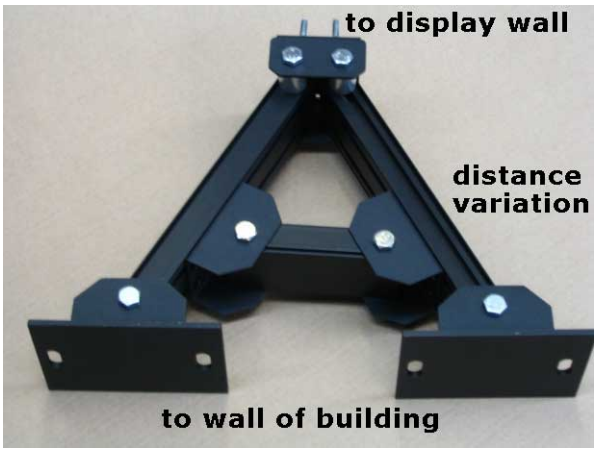


Figure 5-5
photo of wall fixation, A-shape version

First install the bracket to the dark box, then the legs, subsequently apply the short horizontal profile, then the brackets to be fixed to the wall of the building.

In case of a curved setup, the A-shape version is fixed via the center screws (2 screws only), fixed to the polygonal connection bracket, whereas for a linear setup the left and the right screws are used (4 screws), fixed to the profiles.

The following pictures show a sketch of the installed wall fixation on the display wall:

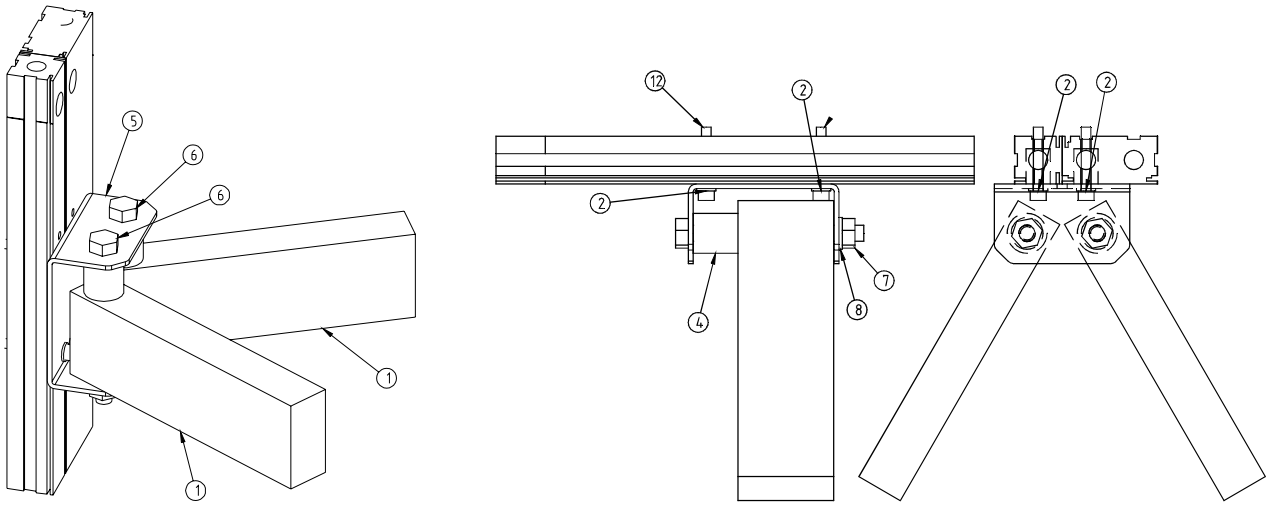


Figure 5-6
wall fixation, A-shape

Item no.	quantities	Description
1	2	Profile (length: project specific)
6	2	Screw M10x110
5	1	Fixation bracket display wall side
2	4	Washer U-6-125
12	4	Screw M6x40
4	1	Distance bushing
7	2	Nut M10
8	2	Washer U-10-125

To install the wall fixation at the display wall, proceed as follows:

- Take the fixation bracket [5] and attach it to the profiles of the dark box (linear setup!!) using the screws M6x40 [12] and the washers U-6-125 [2] (4 screws). In case of a curved setup, the center of the bracket is fixed to the polygonal connection bracket with 2 screws.
- Position the profiles [1] and apply the bushings [4] (either on top of the profiles as shown in the drawing, or beneath the profiles).
- Insert the screws M10 [6].
- Use the washers [8] and nuts [7] to fix it.

To complete the A-shape,

- apply one of the brackets at each side of the short connection profile by means of M10x85. User the spring washer and nut to fix it.

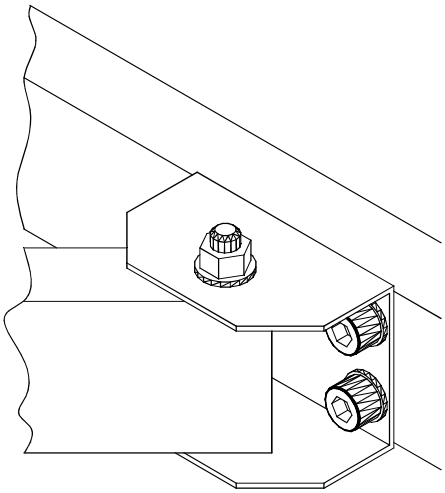


Figure 5-7
Wall fixation, A-shape version, bracket at the "leg" of the A

- Fix the brackets at the legs of the "A": insert 4 Kanya nuts into each of the leg profiles and fix the bracket using screws M6x10 and spring washers. Do only tighten them loosely: by shifting this profile, the angle between the legs is determined and thus the distance to the wall of the building gets varied.
- Attach the wall fixation bracket to the end of the profile by means of M10x85. Use the spring washer and nut to fix it.
- Position the legs at the wall of the building, and mark the position to drill the holes.
- Remove the profile from the bracket to be attached to the wall of the building (otherwise drilling and fixation is very difficult!).
- Use two dowels FUR 10 to attach the fixation bracket to the wall of the building.
- Reattach the leg profiles to the brackets now fixed to the wall of the building.
- Finally really tighten the screws of the brackets at the legs of the "A".

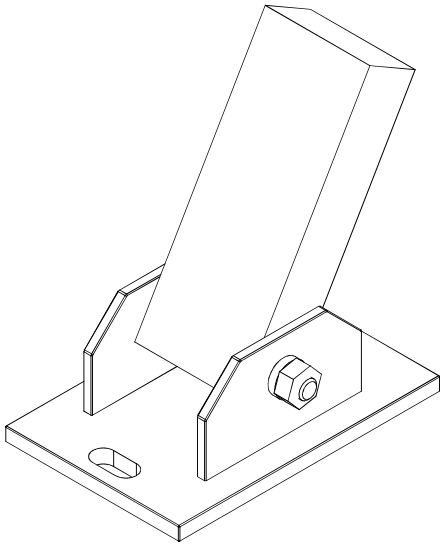


Figure 5-8
wall fixation, A-shape version, fixation to wall of the building

6 Installation of Projection System

Check the power rating on your outlet before connecting the multiMedia-Terminal and the projection modules to the wall outlet or to a power strip. Contact your facilities manager or a qualified electrician if you are not sure what type of power is supplied to your building.

The devices are designed to operate with single-phase power systems having a grounded neutral conductor. To reduce the risk of electrical shock, do not plug into any other type of power system.

In OverView D series, the projection unit and the illumination unit are separated to enable an easy installation and maintenance or replacement.

The following picture shows the removeable rear covers of the dark box and the position of the components.

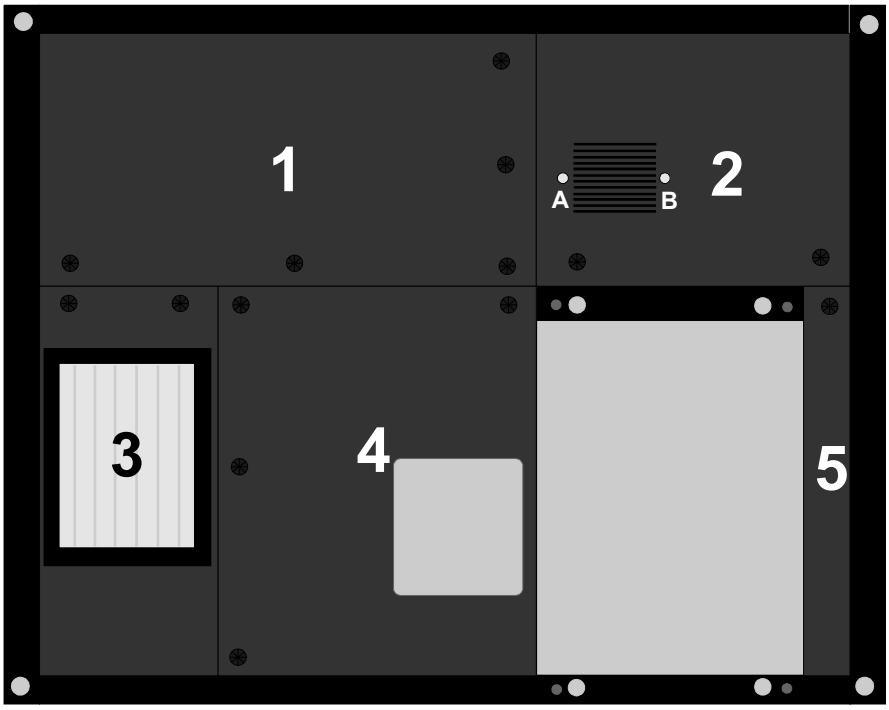


Figure 6-1
Rear View of dark box

Pos	Description
1	Left top rear cover
2	Right top rear cover
3	Fan module with filter pad
4	Center rear cover, gray part: projection unit
5	Right rear cover, gray part: illumination unit

Table 3

6.1 Installation of Illumination Unit

Remove the left top [1], center [4]and the right rear cover [5]. (see Figure 6-1)

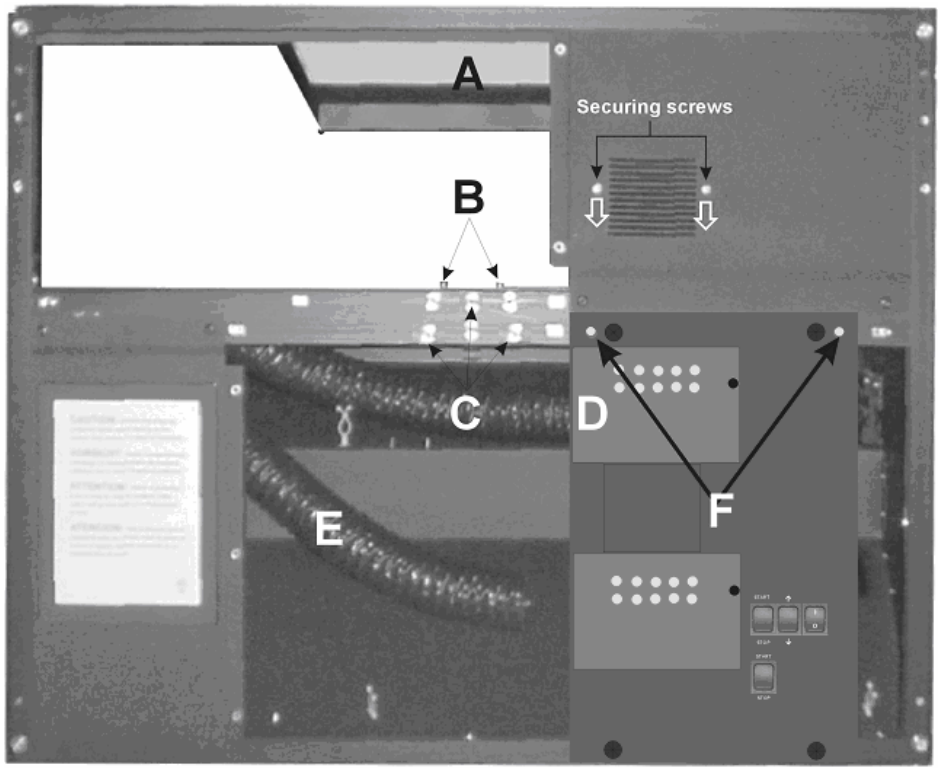


Figure 6-2
Rear view dark box
with removed rear covers

Pos	Description
A	Projection mirror
B	Guide pins for predefined projector position
C	Position of projector securing screws
D	Cooling hose illumination unit
E	Cooling hose projector
F	Guide pins for predefined illumination unit position

Table 4

Unpack the illumination unit. Connect the cooling hose [D] at the illumination unit. Install the illumination unit into the dark box. The position of the illumination unit at the dark box is predefined by 2 guide pins (see Figure 6-2). The illumination unit is fixed with 4 securing screws.

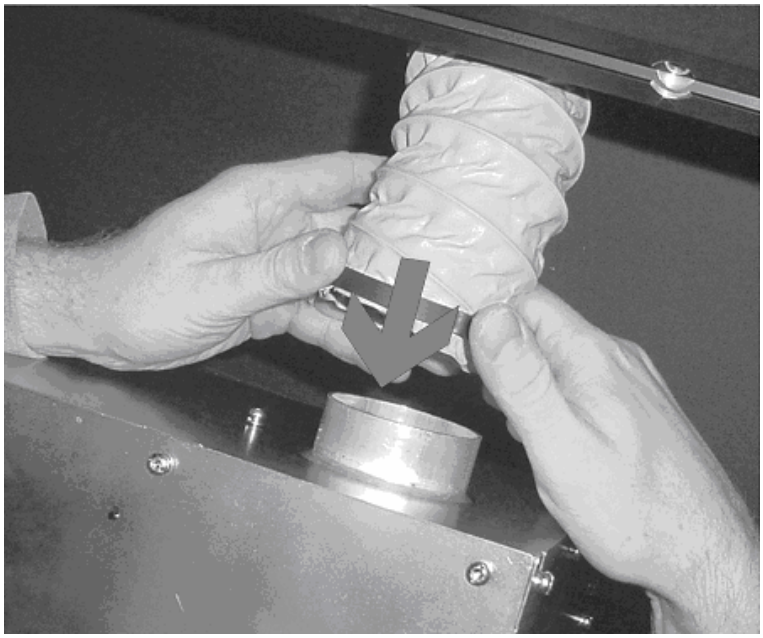


Figure 6-3
Connection of cooling hose

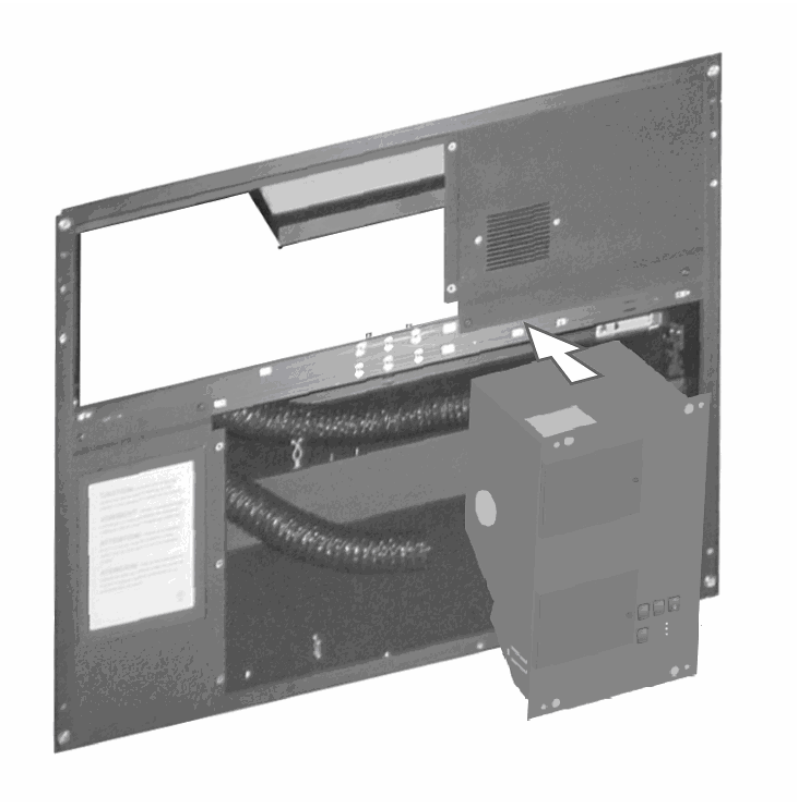


Figure 6-4
Insertion of illumination unit

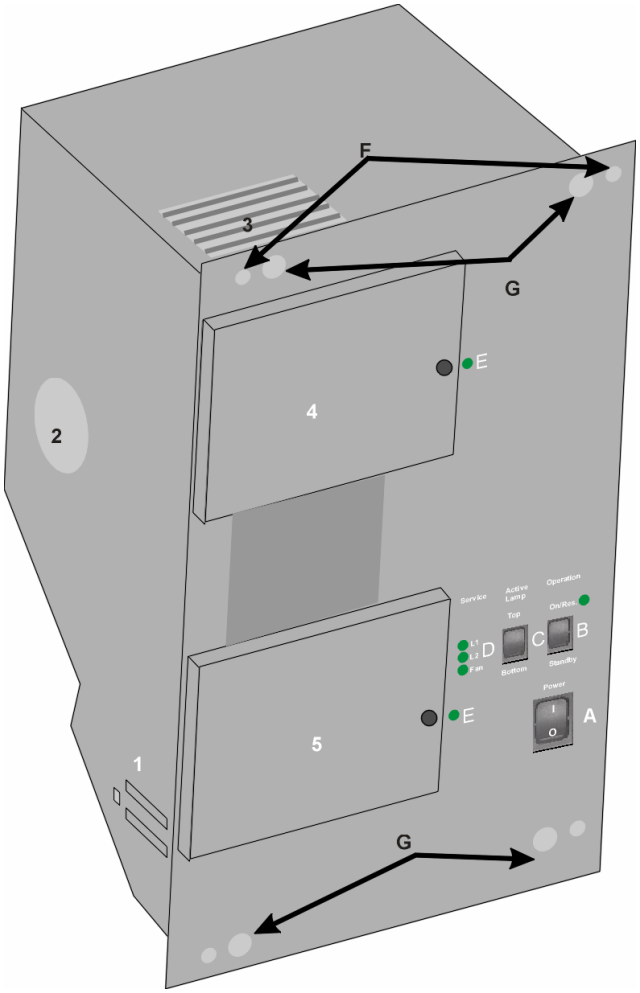


Figure 6-5
Overview illumination unit

Pos	Description	Pos	Description
A	Main Power	1	Connectors
B	Rocker switch On/Res. with LED	2	Optical interface
C	Rocker switch active Lamp	3	Cooling air outlet
D	LEDs (L1, L2, Fan)	4	Cover lamp top (lamp 1)
E	LED lamp door	5	Cover lamp bottom (lamp 2)
F	Position of guide pins		
G	Position of securing screws		

Table 5

Due to the keyholes, the securing screws might already be pre-installed.

Loosen the securing screws (see Figure 6-2) slightly and move them about 5 mm downwards

Tighten the securing screws.

6.2 Installation of Projection Unit

Unpack the projection unit and remove the protective cover of the optical interface.

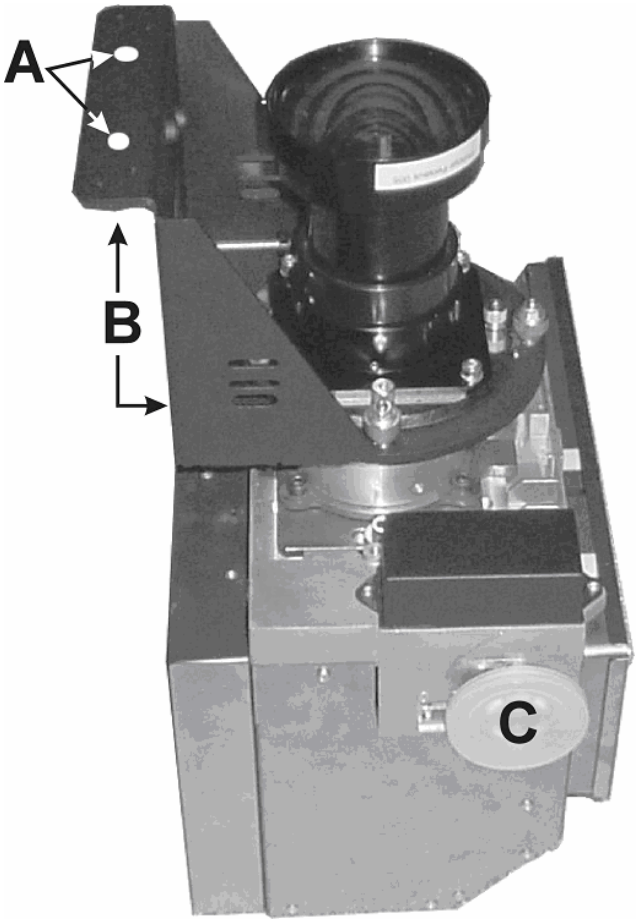


Figure 6-6

Pos	Description
A	Position of guide pins
B	Mounting angle
C	Protective cover of optical interface

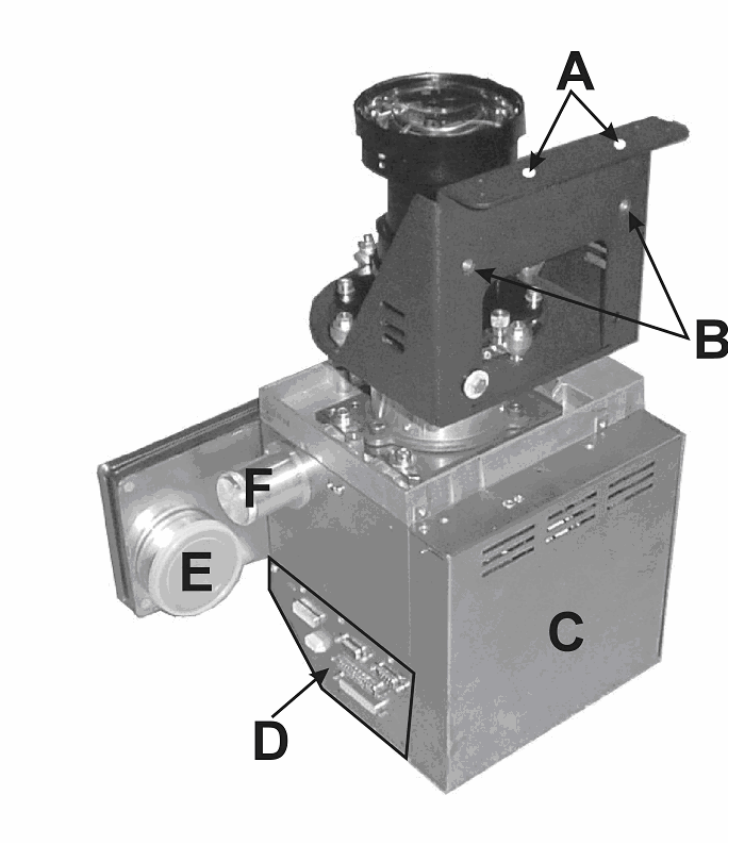


Figure 6-7

Pos	Description
A	Position of guide pins
B	Position of securing screws
C	Rear cover
D	Connectors
E	Protective cover cooling air input
F	Housing of light sensor

Table 6

Install the projection unit at the foreseen position (see Figure 6-8).

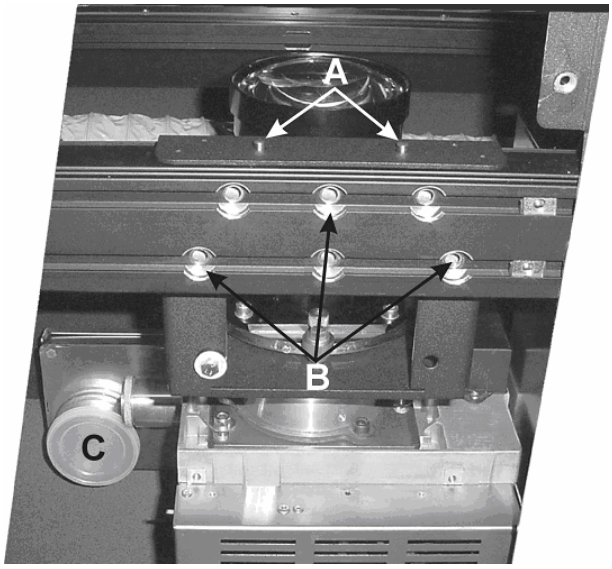


Figure 6-8
Projection unit installed

Pos	Description
A	Position of guide pins
B	Position of securing screws
C	Protective cover

Table 7

Tighten the securing screws [B].

Make sure that the screws fit tightly! Especially the mid screw of the upper row!
A tight fitting is mandatory for a stable adjustment!

Remove the protective cover [C] and install the cooling hose.

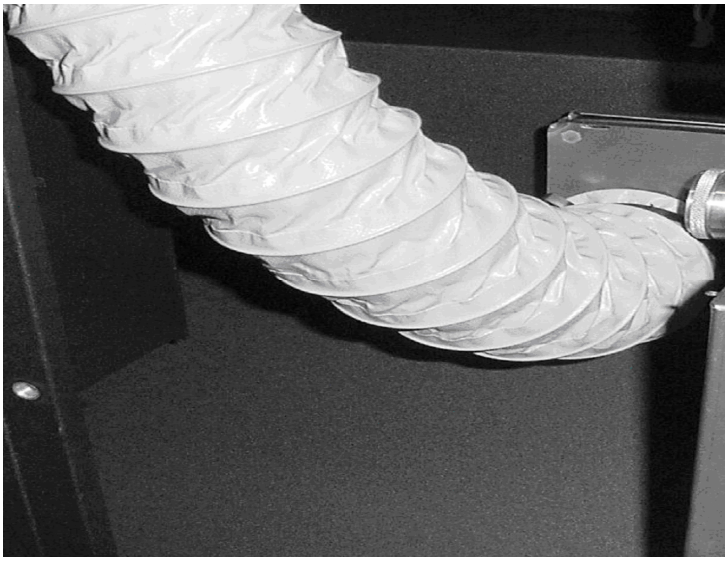


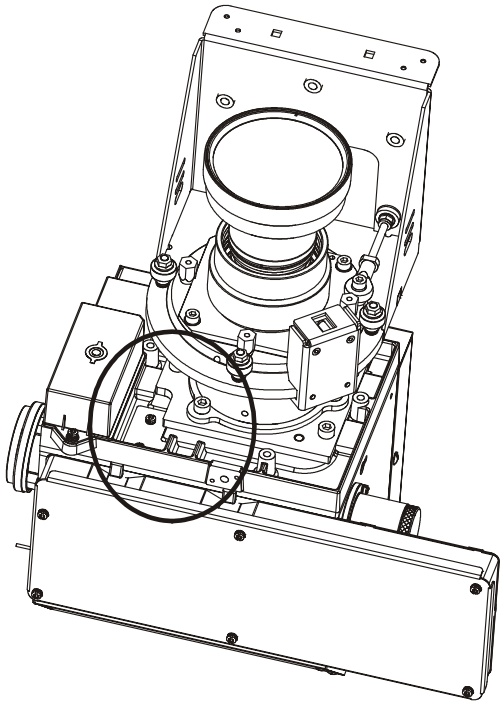
Figure 6-9
Cooling hose installed

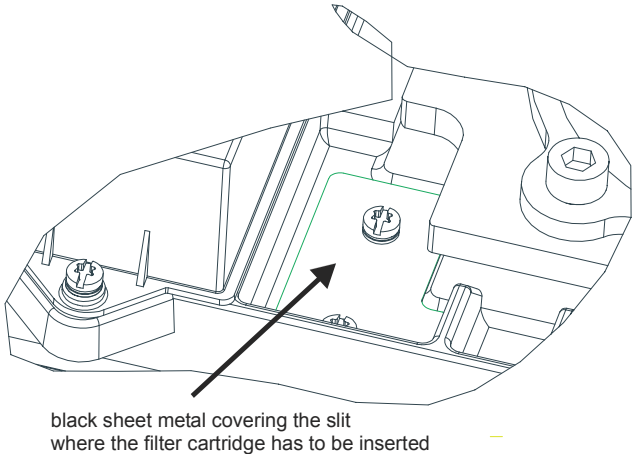
6.3 Installation of the 3200K color filter cartridge

To install the 3200K color filter cartridge,

- switch the projector to standby.
- power off the projector.
- remove the rear shielding of the projection unit.

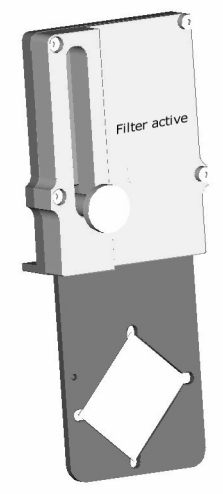
The following pictures show an overview of the projection unit and a detailed view on the position where the filter cartridge has to be installed.

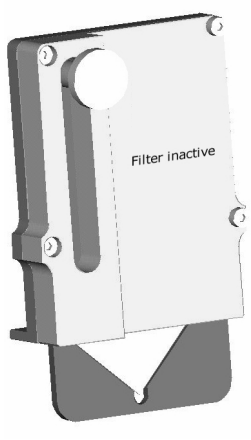




Take a torx key size T10 and remove the black sheet metal covering the slit.

The 3200 K filter assembly looks like this:





The fixation angle will be fixed to the drills of the removed black sheet metal cover.

The activation handle allows sliding the filter in and out.

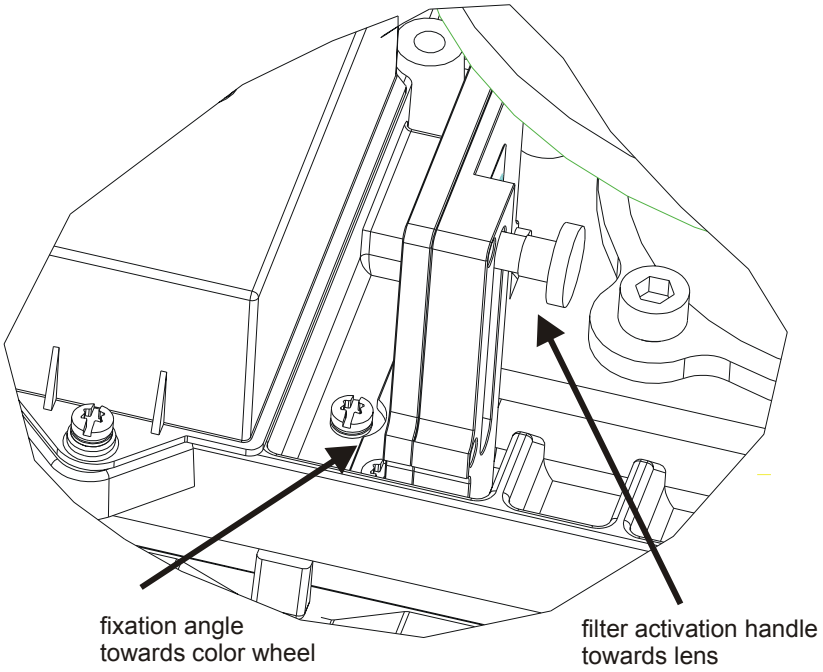
In-position: the filter is inactive, color temperature = 6500K.

Out-position: the filter is active, color temperature = 3200K

Insert the filter assembly into the slit of the projection unit. The activation handle shows towards the lens.

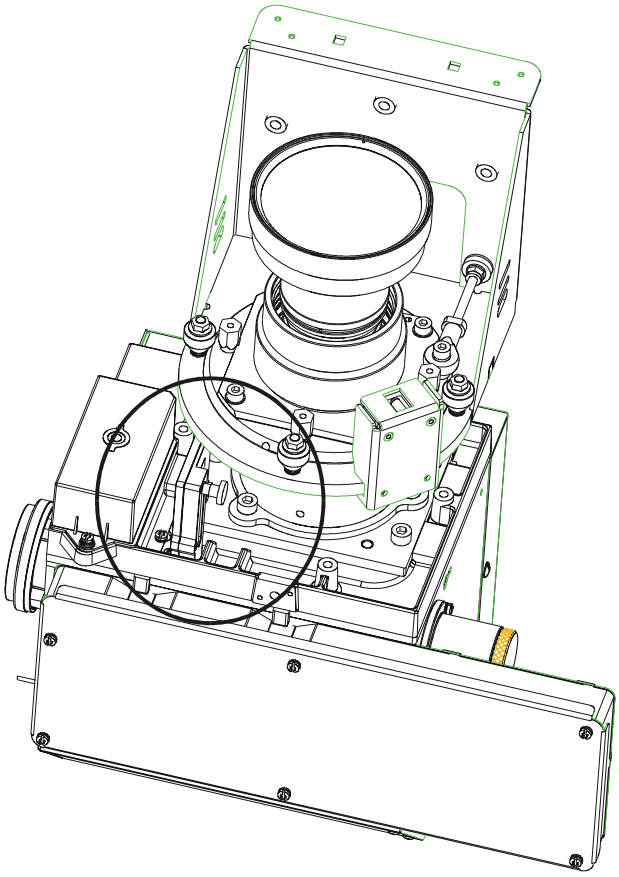
Use 2x screws B360322 to attach the fixation angle to the projection unit.

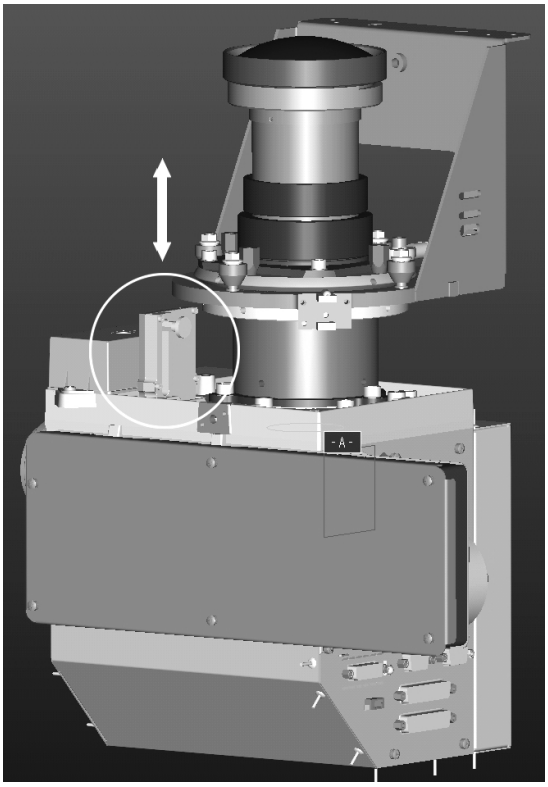
Use 1x screw B360322 to cover the M3 drill in the base plate.



The following pictures show the projection unit after the installation of the 3200K color filter cartridge:

B





For a color temperature of 3200K, move down the activation handle to activate the filter.

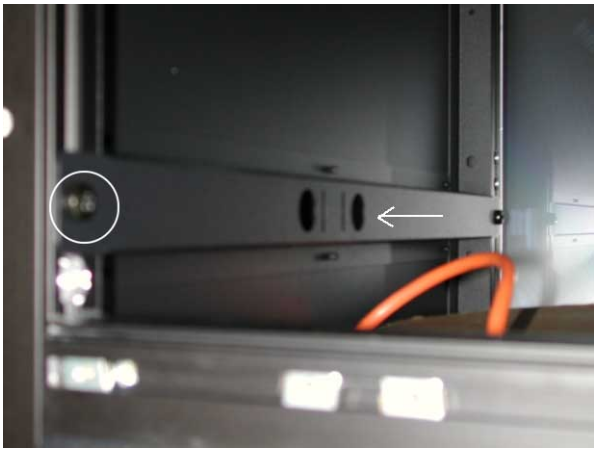
Close the shielding of the projection unit.

Please note:
To switch the color temperature back to 6500K, the shielding has to be removed again to move the activation handle up.

Switching of the color temperature always requires removing the back shielding of the projection unit.

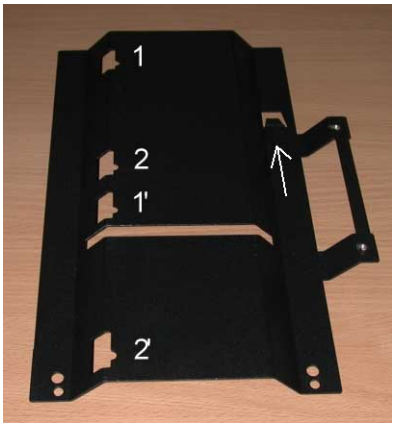
6.4 Installation of the Multi Input Module (SXGA emulation)

On the left side of the darkbox you see the enforcement metal. The support for the Multi Input Module will be fixed to this enforcement. Unscrew the screw shown in the picture.



Into the vertical profile, a movable nut has to be inserted.

Look at the support of the Multi Input Module. It has a "nose" which will have to be fit into the hole of the enforcement metal indicated by the arrow. In addition, it has 4 spares, labeled 1-1', 2-2'. For internal installation of the Multi Input Module, the unit will be hooked into the spares 1-1'. The lateral front edge of the Multi Input Unit will fit into the slot of the support.



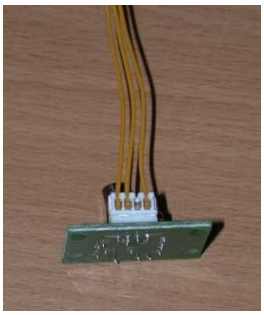
Insert the support. Fit the nose into the enforcement metal. The support of the Multi Input Module will be fixed on the bottom by means of the screw you previously loosend, and on the top by an additional screw which will be tightened using the nut inserted into the profile.

After the support has been attached, the IR sensor for operating the Multi Input Module via IR remote control has to be installed.

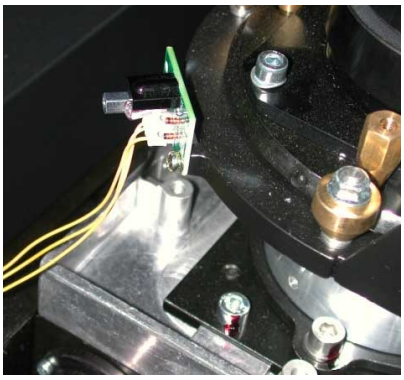
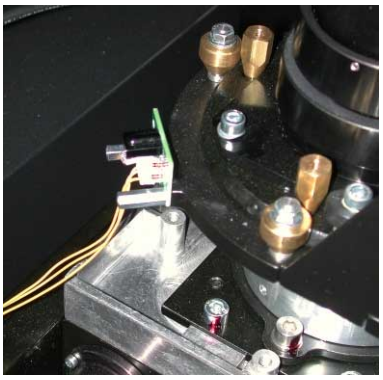
6.4.1 Installing the sensor of the Multi Input Module

The IR sensor of the Multi Input Module will be placed upon the IR sensor of the projection unit. Therefore it comes with two fixation facilities.

Before installing the sensor, plug in the cable! Mind the correct orientation! For better recognition, the socket NOT to be connected to the sensor (but to the Multi Input Module) is painted black:



One by one, replace the fixation screws of the IR sensor of the projection unit by the fixation facilities of the sensor of the Multi Input Module. In the picture, you can see the required steps: replace one screw, then the other, finally attach the second sensor on top of the IR sensor of the projection unit. Make sure not to block the sensor of the projection unit by a wrong attachment of the IR sensor of the Multi Input Module!

Since the back side of the unit is no longer accessible when the unit is installed, the power cables to and the sensor cable have to be connected to the Multi Input Module BEFORE inserting the unit into the darkbox.

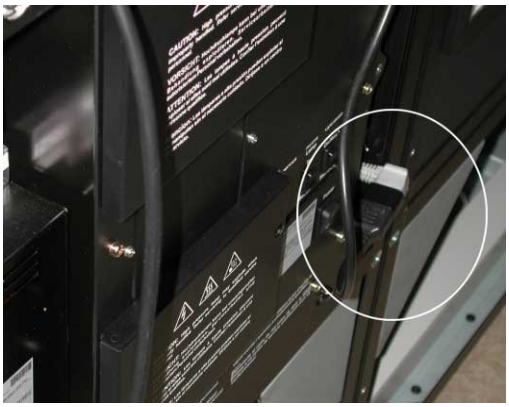
6.4.2 Cabling of the Multi Input Module and installation of the unit

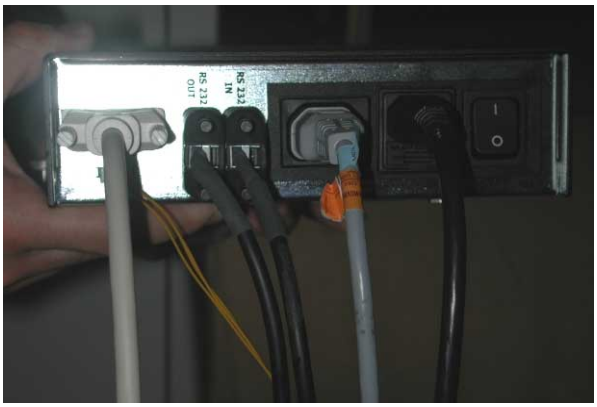
The power cable of the illumination unit has to be unplugged and lenghtened by the extension cord. The second interface of the extension cord has to be connected to the power in socket of the Multi Input Module.

The power out socket of the Multi Input Module has to be connected to the illumination unit.

The sensor cable has to be plugged in, as well as the remote control cables and the data cable (DVI) to the projection unit.

Make sure to guide all cables inside the dark box!





Now you can insert the Multi Input Module into the dark box. Tilt it to enable the insertion and put it up only when inside the dark box.

Hook the two rods on the bottom of the Multi Input Module into the spares 1-1' of the support.

Tighten the curled screw on the bottom of the Multi Input Module. That's it. No additional fixation is required.

Now the cabling of the sources (front interfaces can be done. When all cables are connected, carefully guide them through the dark box. Make sure that they are not within the range of projection – otherwise you will see the cables on the screen!

When all cables are attached, switch on the Multi Input Unit and test it. Subsequently re-attach the top rear cover of the OverView projection system.

6.5 Cabling

The following figure shows a block diagram about the cabling.

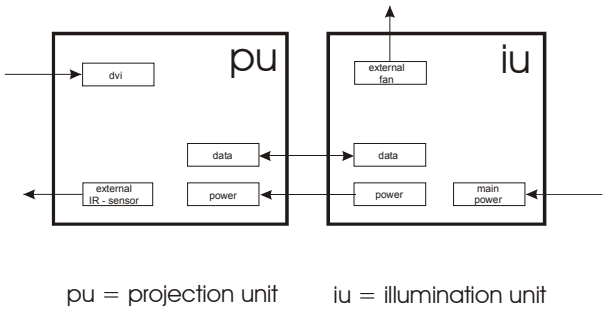


Figure 6-10
Block diagram

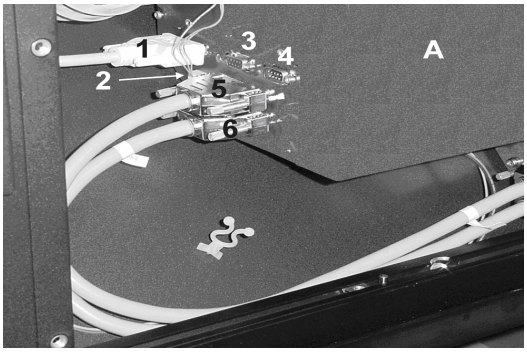


Figure 6-11
Overview cabling

Pos	Description
A	Projection unit
B	Illumination unit
1	DVI connector
2	External infrared sensor
3	COM in
4	COM out
5	Data
6	Power

Table 8

When using optical(fibre) data cables, please note that they may not be bent to a curvature with a bend radius less than 15.4cm!

As soon as the illumination unit and the projection unit are connected by the signal cable and/or the power cable, DO NOT disconnect either of these cables under operation or in standby!

Disconnect only when the system is completely powered off (all LEDs are off)!

Otherwise the trinamic board of the IU will be damaged.

6.6 Inserting the Lamp Modules (Illumination unit with lamps of 100W/120W)

- Fetch the lamp module on its housing. The power socket is on the right side.
- Insert the lamp carefully. Take care that the "tubes" slide on the guide rods [2].

Figure 6-12
lamp and lamp housing

- Mind the position of the fingers: the force is to apply on the outer part of the module

Figure 6-13
applying the force on the lamp module

- Press the lamp module tightly into its socket
- Apply the securing ring on the lamp and press it in axial direction while turning

Figure 6-14
inserting the securing ring

- Turn the securing ring until its hooks click round the guide rods.

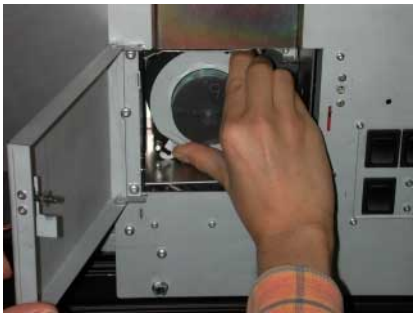
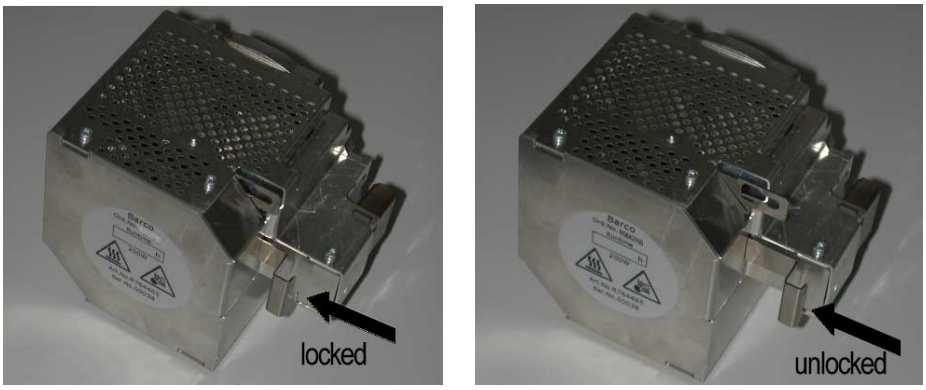


Figure 6-15
inserting the securing ring

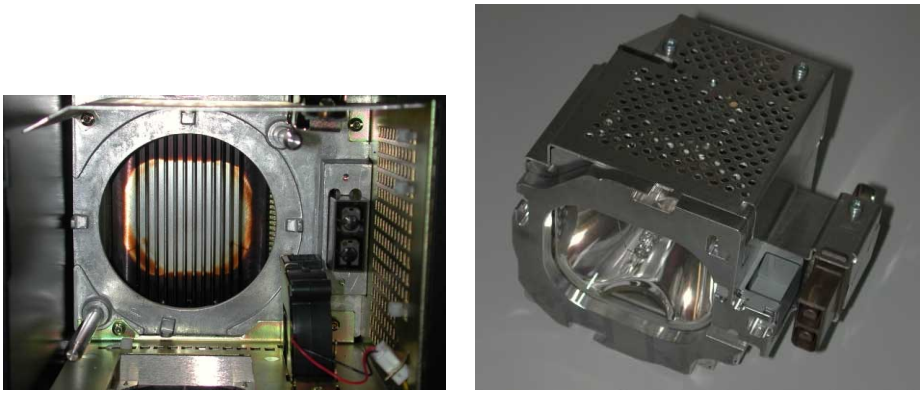
- Close the lamp door
- Use the screw driver and lock the lamp door by turning the screw a quarter turn clockwise.

The Serial Number of the lamps have to be entered, cf. Reset Runtime. **In addition, Lamp Optimization has to be performed once for both lamps, cf.** Lamp Optimization**. It is recommended to do these step as soon as possible.**

6.7 Inserting the Lamp Modules (Illumination unit with lamps of 200W)

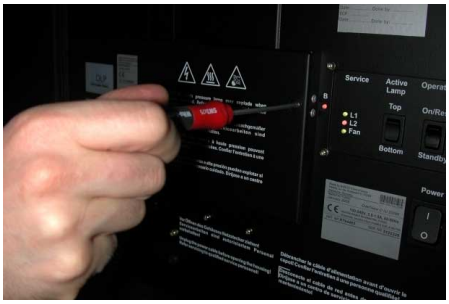


- Fetch the lamp module on its housing. The power socket is on the right side.
- Insert the lamp carefully. Take care that the "tubes" slide on the guide rods.
- When the lamp is removed, you see the two guiding rods on the upper right/lower left and the additional fan for cooling.



- Press the lamp module tightly into its socket.
- Lock the lamp into its position by pressing the locking slider to the left.

Figure 6-16
inserting the lamp and locking it



- Close the lamp door
- Use the hexagon key and lock the lamp door by turning the screw a quarter turn clockwise.

After the replacement of a lamp module, the new serial number has to be entered, and it is highly recommended to select the lamp optimization procedure, cf. **Error! Reference source not found.**, **Error! Reference source not found.**.

In emergency cases the lamp optimization procedure can be skipped for the moment and carried out later.

6.8 Selecting the correct lamp driver

There are four kinds of lamp drivers for the illumination unit of OverView D. it is mandatory that you check if the default lamp driver is the correct one for your system!

SXGA+ systems only run with Power Pack lamp driver!

Please refer to Lamp Driver to learn how to set the correct lamp driver!

6.9 Running the fans

Before taking the system into operation it must be ensured that the fans and the hoses are dust free. Therefore remove again the hoses from the illumination unit and the projection unit and start the fan.

Run the system in standby! Do not switch on the lamps!

The fans should run for about 5 minutes before continuing. Then re-attach the hoses.

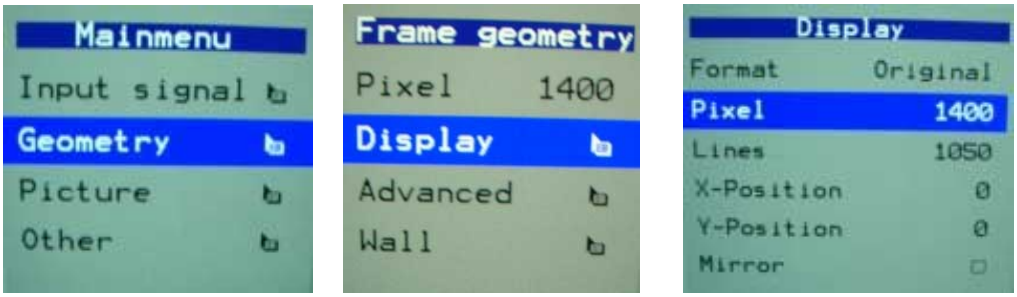
Now you can start with the adjustment procedure

6.10 Settings of the Multi Input Module and the controller (SXGA emulation)

6.10.1 Multi Input Module

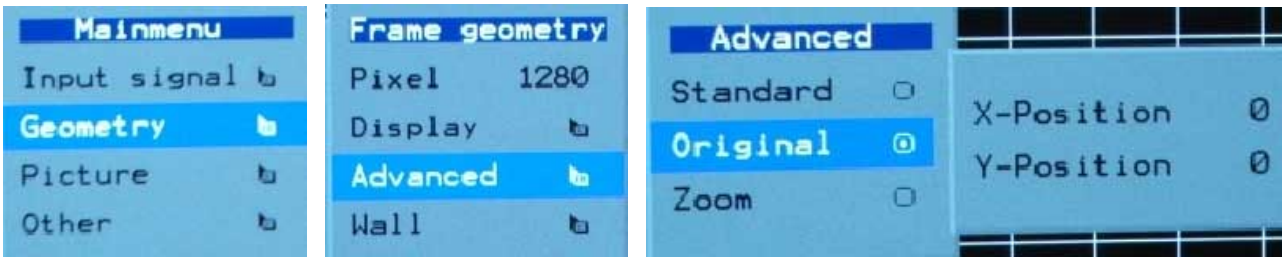
The Multi Input Module has to be set to the SXGA resolution. In the main menu, select **Geometry|Display|Pixel**. Adjust the value from **1400** to **1280**.

Subsequently go to **Geeometry|Display|Line** and adjust the value from **1050** to **1024**.



Select **Geometry|Advanced|Original**.

Set both, the **X-position** and the **Y position**, to **zero**



6.10.2 Controller

The Multi Input Module processes the incoming SXGA signal into an SXGA+Signal with black borders.By zooming out you can remove the black border.– With TransForm A controller,,take care to switch the rotary switch on the UGX graphics card to position 8.For Hydra controller,change the resolution in I-studio (module->setup module ->screen)to "DLP SXGA native size "and reboot the Hydra.

7 Optical Adjustment

After setting up the system optical adjustment must be done. In the following chapter a description of the adjustment facility is given as well as some hints to carry out this procedure.

Only authorized and specially trained personnel should carry out adjustment!
Keep in mind that electrical power is supplied! Never touch anything different from the parts described below due to the dangers of electrical shock.

- Switch on main power by pressing **I** (rocker switch I/O) Figure 6-5 [A]
- Wait at least half a minute while the fan is blowing.
- Switch on the lamp by pressing On (rocker switch On/Res.) Figure 6-5 [B]
- The last 3 steps have to be repeated for each module.
- Insert a DOS boot diskette into the ARGUS-Processor and boot the system.
- Start the program with the following command:

  `A>grid2728 <CR>`

  The adjustment grid is displayed.
- Check the distortion and the sharpness of the displayed adjustment grid.

You can also use the internal test pattern hatch, cf. Internal patterns.

To carry out the following procedures it is recommended to observe the displayed image from the back of the screen thus immediately seeing the effects of the adjustment procedures. To enhance contrast it may be necessary to veil the screens with a dark cover.

7.1 Testpattern for SXGA emulation

The adjustments of the projection unit have to be made using an external software tool or by applying thetestpattern from the OSD:**Service |Internal Patterns|Outline/Hatch**. This test pattern has been completed by an outline 1280x1024 pixel.

7.2 The projection lens for SXGA systems

Figure 7-1
projection lens for SXGA systems

1	Scale for screen size adaptation
2	Focus adjustment
3	Zoom adjustment
4	2 fixation screws for focus lock - the focus ring still shows some clearance after locking. This due to the mechanical design of the lens. Anyway, the focus is fixed.
5	2 fixation screws for zoom lock
6	Fixation screws for screen size adaptation lock, filled with paint

No adjustment should be required wrt screen size adaptation. In production, screen size is set to 50", see picture below.

Figure 7-2
scale for screen size adaptation

7.3 The projection lens for XGA systems

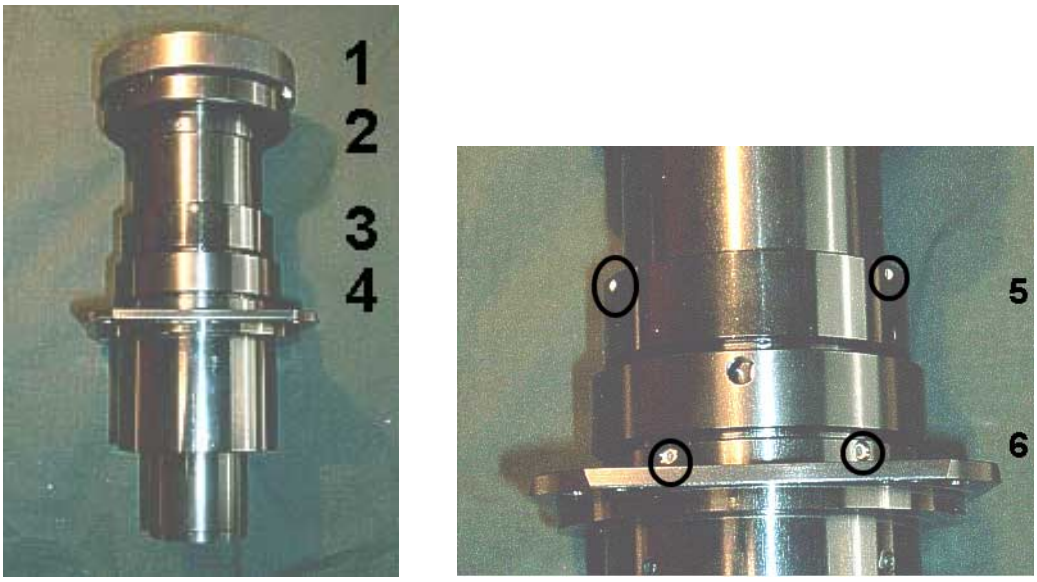


Figure 7-3
projection lens for XGA systems

1	Scale for screen size adaptation, turn left for 50" systems, right for 67" systems
2	Fixation screws for screen size adaptation lock, filled with paint
3	Zoom adjustment
4	Focus adjustment
5	3 fixation screws for zoom lock
6	2 fixation screws for focus lock - the focus ring still shows some clearance after locking. This due to the mechanical design of the lens. Anyway, the focus is fixed.

The projection lens allows to zoom and to focus the picture. The adjusted settings can be locked by means of fixation screws.

It is recommended to lock the lens only after the entire adjustment procedure has been done.

After locking the focus adjustment ring and the zoom adjustment ring it might be necessary to correct again x, y shift of the picture.

Even if locked, the focus adjustment ring can be slightly turned. Do not worry! The focus is locked anyway!

7.4 Strictly prohibited devices

Have a careful look on the following picture and remember:

These screws shall NEVER be touched!!!

The projection lens is mounted on the housing of the projection engine.

All screws mounted on the level indicated by a black arrow are NOT to be touched. These screws are fixation screws for the entire projection lens or screws required for the Scheimpflug adjustment which has already be done in the factory!

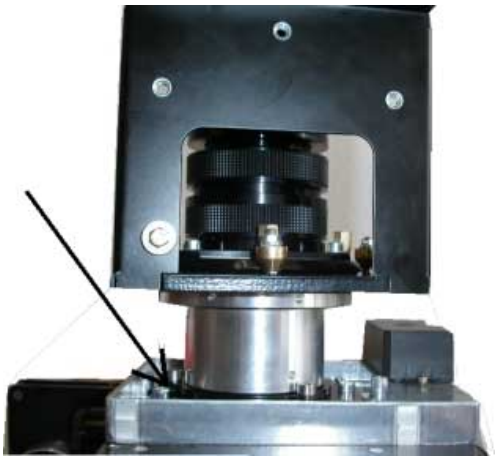


Figure 7-4
restricted area

For better recognition, these screws are locked with paint. The following picture shows the respective screws in detail:

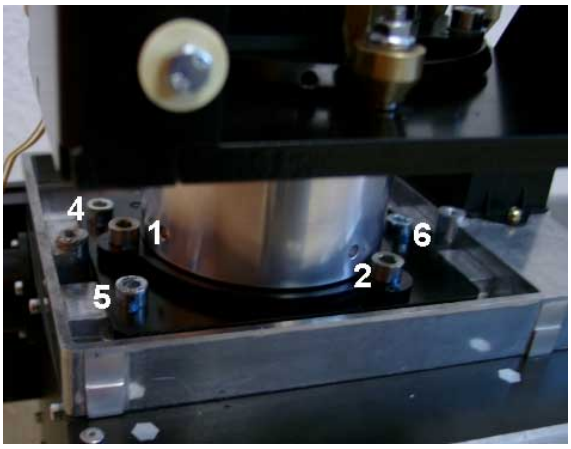


Figure 7-5
Never touch these screws!

Screws	Function
1, 2 (and 3, not visible)	Scheimpflug adjustment
4, 5, 6	Mounting and fixation screws

7.5 Adjustment devices

Besides the adjustment rings on the projection lens to adjust focus and size, there are adjustment screws to correct distortions.

The following picture gives an overview about the position and the function of the adjustment screws.

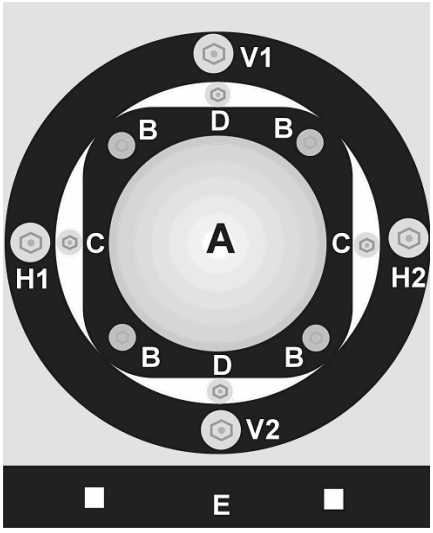


Figure 7-6
top view of lens

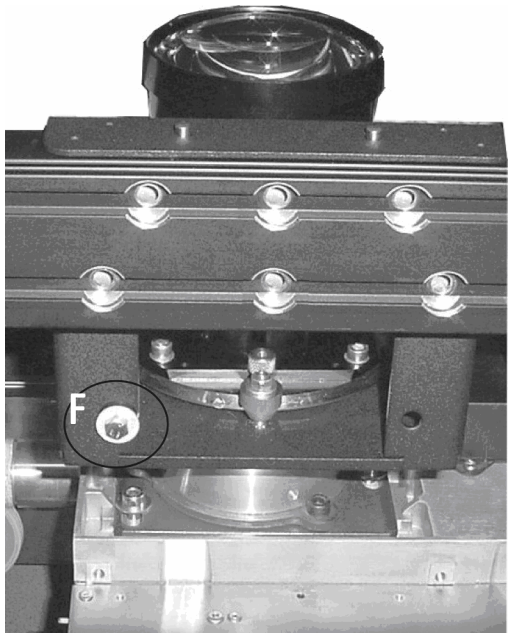


Figure 7-7
side view (lens and adjustment devices)

A	Lens	H1, H2	Horizontal tapezoid
B	Lens securing screws	V1, V2	Vertical trapezoid
C	Horizontal lens shift	E	Mounting angle
D	Vertical lens shift	F	Rotation

Table 9

7.6 First steps

The entire projection unit is locked via the lock ring:

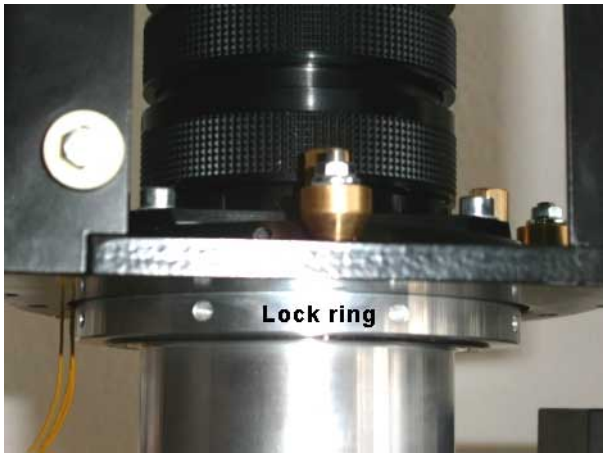


Figure 7-8
Lock ring

- Unlock the system (loosen the lock ring)
- Loosen the screen size adaptation lock screws and the zoom lock screws on the projection lens.
- Loosen slightly the securing screws of the projection lens [B].

Without unlocking the system, no adjustment is possible!

7.7 Focus adjustment

The sharpness of the outlines of the squares (test pattern) is adjusted by turning the focus adjustment ring.

7.8 Picture size

The wrong picture size looks like this or similar:

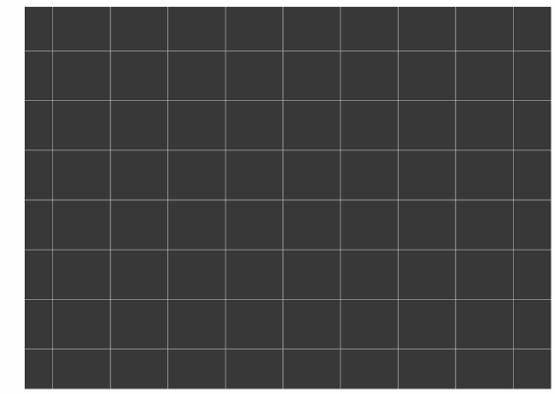


Figure 7-9
Rear view picture size too big

Turn the zoom adjustment ring at the lens (Figure 7-1) counterclockwise to decrease the size of the picture.

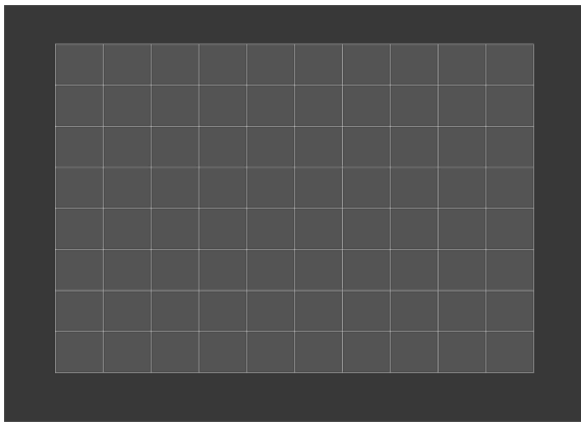


Figure 7-10
Rear view picture size too small

Turn the zoom adjustment ring at the lens (Figure 7-1) clockwise to increase the size of the picture.

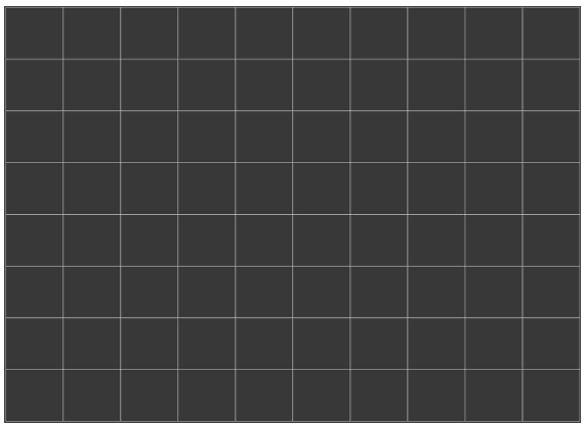


Figure 7-11
Rear view picture size o.k.

7.9 Vertical Trapezoid

A vertical distortion looks like this or similar.

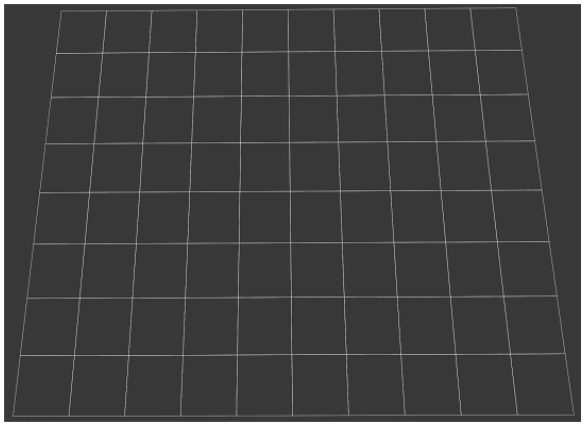


Figure 7-12
Rear view vertical trapezoid

Turn the adjustment screw V1 counterclockwise (Figure 7-6) and V2 clockwise until the vertical lines gets parallel to the border of the screen.

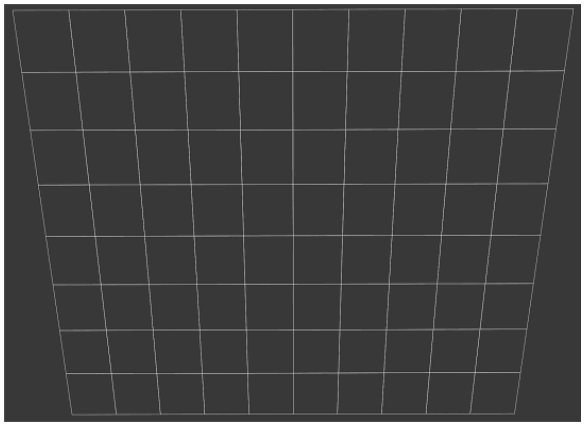


Figure 7-13
Rear view vertical trapezoid

Turn the adjustment screw V1 clockwise (Figure 7-6) and V2 counterclockwise until the vertical lines gets parallel to the border of the screen.

7.10 Horizontal trapezoid

A horizontal distortion looks like this or similar.

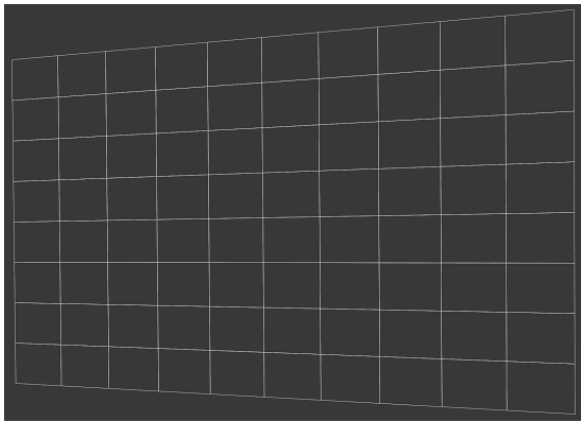


Figure 7-14
Rear view horizontal trapezoid

Turn the adjustment screw H1 counterclockwise (Figure 7-6) and H2 clockwise until the vertical lines gets parallel to the border of the screen.

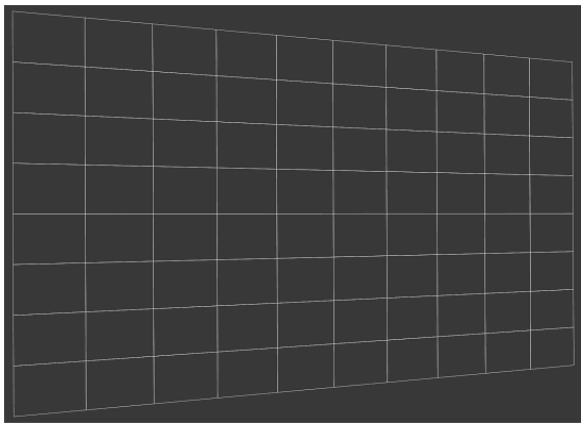


Figure 7-15
Rear view horizontal trapezoid

Turn the adjustment screw H1 clockwise (Figure 7-6) and H2 counterclockwise until the vertical lines gets parallel to the border of the screen.

7.11 Rotation

The distortion “rotation” looks like this or similar:

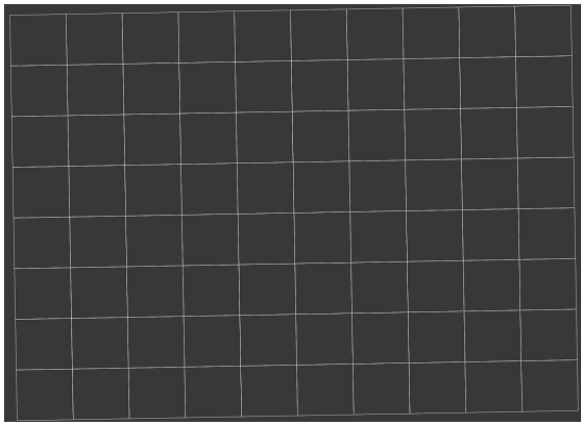


Figure 7-16
Rear view rotation

Turn the rotation adjustment screw (Figure 7-7) [F] clockwise until the horizontal lines gets parallel to the border of the screen.

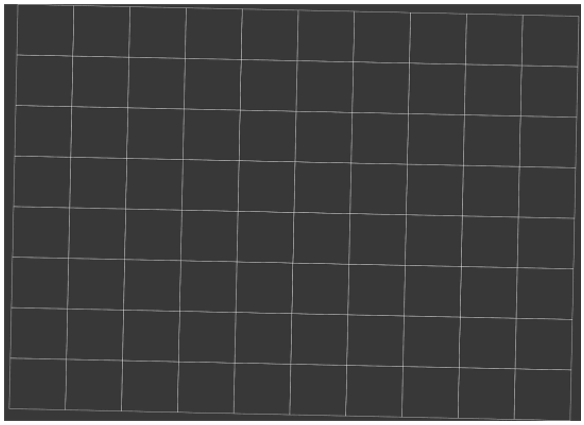


Figure 7-17
Rear view rotation

Turn the rotation adjustment screw (Figure 7-7) [F] counterclockwise until the horizontal lines gets parallel to the border of the screen.

7.12 Horizontal picture shift

The horizontal picture shift may looks like this or similar:

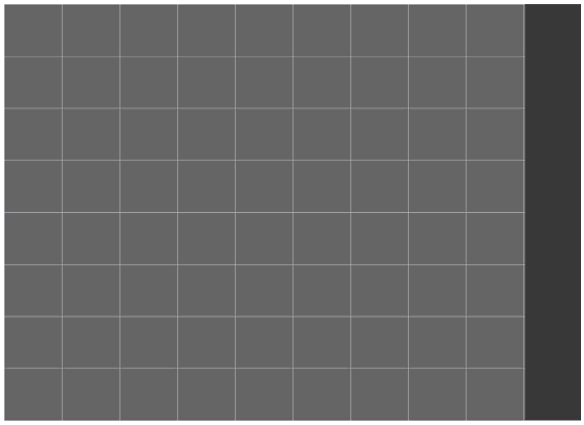


Figure 7-18
Rear view horizontal position

Use the adjustment screws for horizontal lens shift Figure 7-6 [C]. Tighten the left and loosen the right screw to move the picture to the right.

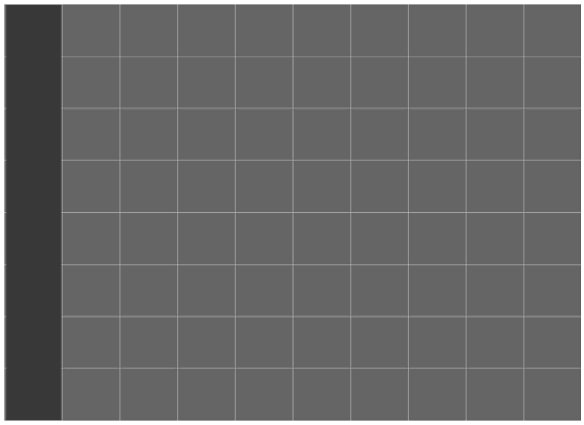


Figure 7-19
Rear view horizontal position

Use the adjustment screws for horizontal lens shift Figure 7-6 [C]. Loosen the left and tighten the right screw to move the picture to the right.

7.13 Vertical picture shift

The vertical picture shift may look like this or similar:

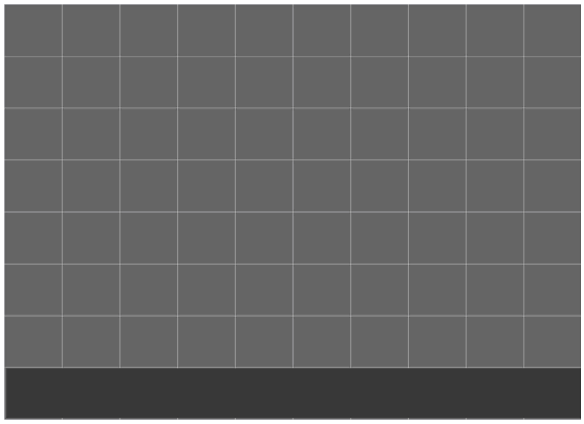


Figure 7-20
Rear view vertical picture shift

Use the adjustment screws for vertical lens shift Figure 7-6 [D]. Tighten the top and loosen the lower screw to move the picture downwards

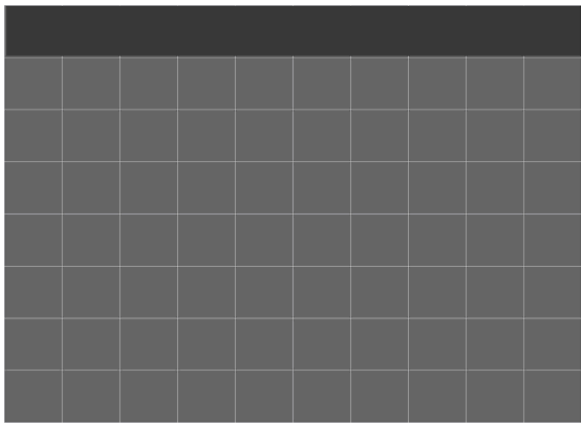


Figure 7-21

Use the adjustment screws for vertical lens shift Figure 7-6 [D]. Loosen the top and tighten the lower screw to move the picture upwards

7.14 Locking the Projection Unit

After the adjustment procedures the projection unit must be locked.

- Turn the lock ring counterclockwise until it does not move any more. (don't tighten this ring too strong)
- Lock the zoom and the focus adjustment by means of the fixation screws.
- Tighten carefully the four securing screws of the lens.
- Check if the position of the picture didn't change while locking the projection unit.

8 Final Adjustment and Configuration

After the set up of the Display Wall, the system has to be fine adjusted. This is done via the IR Remote-Control and the OSD (or the respective commands via the RS 232 Remote-Control).

8.1 The IR Remote-Control Unit

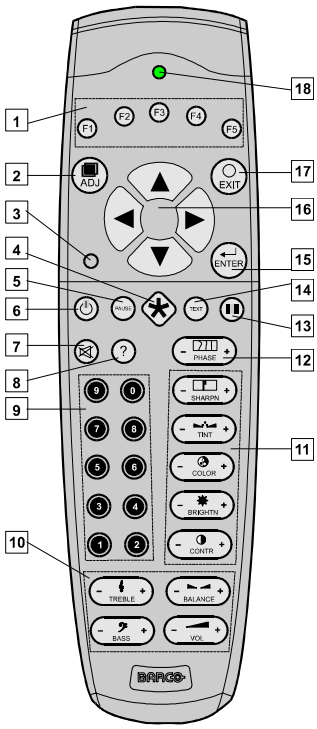


Figure 8-1
IR Remote Control Unit (RCU)

8.1.1 Terminology of RCU controls

1	Function keys	have no function for this projector
2	ADJ	ADJUST key, to enter or exit the adjustment mode.
3	Address key	(recessed key), to enter the address of the projector (between 0 and 9). Press the recessed address key with a pencil, followed by pressing one digit button between 0 and 9.
4	Selection key	has no function for this projector
5	PAUSE	has no function for this projector
6	Standby	stand by button, to start projector when the power switch is switched on and to switch off the projector without switching off the power switch.
7	Mute	has no function for this projector
8	Help	has no function for this projector
9	Digit buttons	To enter the remote control address
10	Audio controls	have no function for this projector
11	Picture controls	Except for brightness and contrast, these keys have no function for this projector. The controls of brightness and contrast are only enabled in case the optical dimmer is disabled, cf. Optical Dimmer
12	PHASE	has no function for this projector
13	Freeze	has no function for this projector
14	TEXT	has no function for this projector
15	ENTER	to start up the adjustment mode or to confirm an adjustment or selection in the adjustment mode.
16	Cursor Keys	to make menu selections when in the adjustment mode. **RCU** cursor key up cursor key down cursor key right cursor key left Use the cursor keys up or right for increasing a value. Use the cursor keys down or left for decreasing a value.
17	EXIT	to leave the adjustment mode or to scroll upwards when in the adjustment mode.
18	RC operating indication	lights up when a button on the remote control is pressed. (This is a visual indicator to check the operation of the remote control)

8.2 General

OVERVIEW MDG50-DL has a build in "PC like" toolbar menu which allows easy access to different parameters for setting up the projector.

The toolbar menu is activated by pressing **ADJ**

Menu items which are not applicable are grayed out.

8.3 Menu Layout

The existence of a **submenu** is indicated by a white arrow

Three suspension points indicate that the menu item hides a **dialog box** or a **text box**.

A dot indicates which option is selected.

Grayed out menus or items are not available in this software version.

8.3.1 Navigating

Use the cursor keys on the **RCU** to navigate within a **menu** or a **submenu**.

Press **Enter** to select a menu item

Press **Enter** to open the submenu.

Press **Exit** to exit a submenu or menu

8.4 Activating the Menu Bar

Press the **ADJ** key on the **RCU** to display the menu bar.

Figure 8-2
menu bar

Use the **cursor key** on the **RCU** to select a **menu**. Press **Enter** to activate it.

8.4.1 Reset Runtime

After insertion of a new the lamp, its serial number has to be entered.

The command **Reset runtime** displays the dialog to enter the serial number.

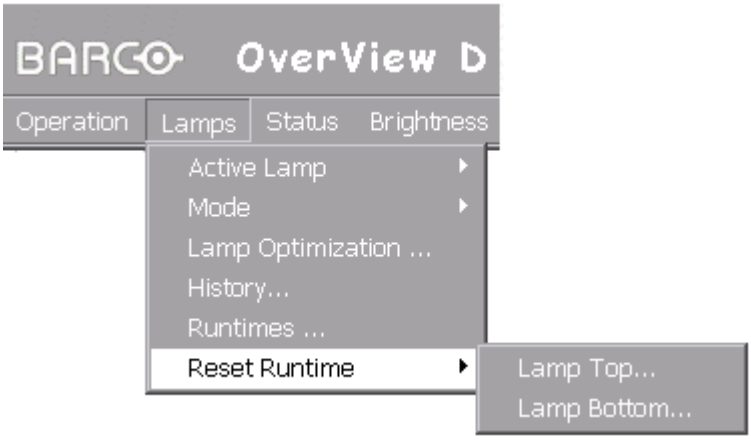


Figure 8-3
Reset runtime

To enter the serial number of the new lamp, proceed as follows:

- Use the cursor key to highlight **Reset runtime**.
- Press **Enter** to select.

The following dialog is displayed:

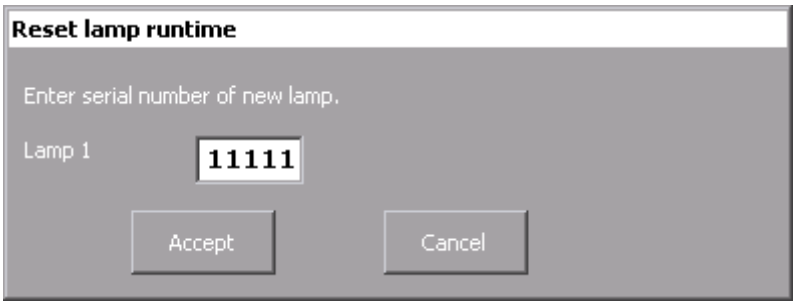


Figure 8-4
dialog to enter the serial number of a new lamp

- Use the cursor keys to highlight the input field.
- Use the numeric keys on the RCU to enter the serial number of the new lamp.
- Click **Accept** to activate the serial number.

These steps have to be performed for both lamps. Then **Lamp Optimization** should be done.

8.4.2 Lamp Optimization

Since the light is coupled into the light rod by means of a mirror, the position of the mirror together with the actual lamp properties determine the light yield.

During the **Lamp Optimization** procedure, the light output of the active lamp in dependence of the tilting angle of the mirror is measured, and the optimized mirror position for the lamp is determined.

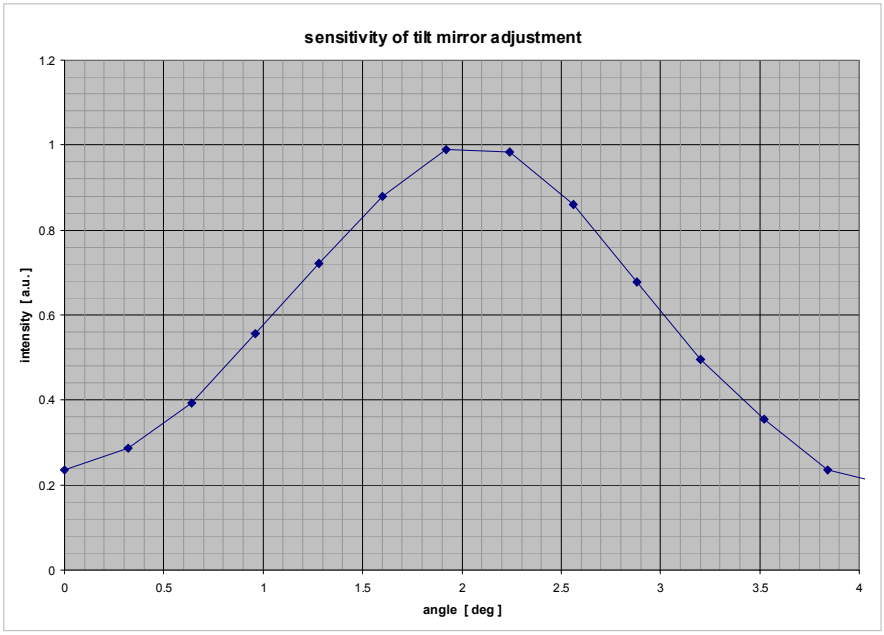


Figure 8-5
influence of tilt mirror adjustment on light intensity

The procedure should be performed subsequently for both lamps. The optimized positions are stored independently for both lamps, so that after setting the lamp lift in motion and thus changing the active lamp, the mirror position is adjusted accordingly.

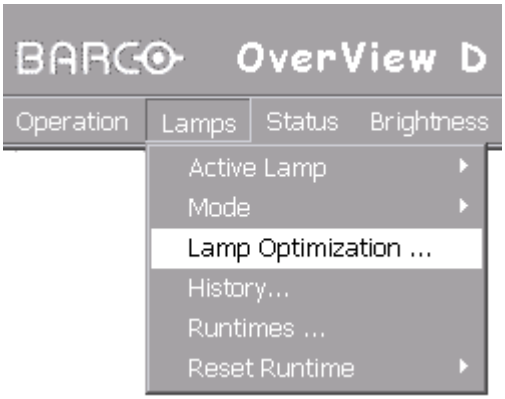


Figure 8-6
Lamps menu, Lamp optimization

This procedure optimizes the coupling of the active lamp into the optical system of the projector and is immediately triggered by selecting the command Lamp Optimization. During this procedure, the display gets dark for about 30seconds.

- Use the cursor keys to highlight **Lamp Optimization**
- Press **ENTER** to select.

If **Operation|Message Box** is enabled, the following message box is displayed:

Figure 8-7
Lamp optimization in progress

The procedure should be performed subsequently for both lamps.

All other steps to configure the system have to be done in the service menu.

8.5 Access to the service menu

To access the service menu of the OSD, proceed as follows:

Start the OSD

Move the cursor to **Brightness**

Figure 8-8
first step to activate the Service Menu

Enter the access code via the numeric keys on the IR Remote-Control. Press **Enter** to complete!

The **Service** menu entry is shown.

Move the cursor to highlight **Service**. Press **Enter** to select. The following menu items are displayed:

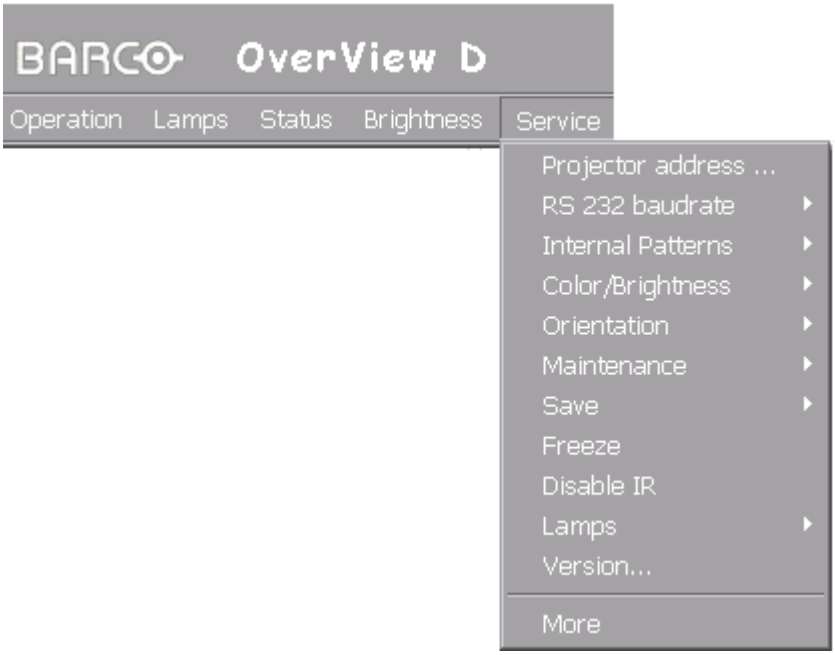


Figure 8-9
Service Menu

8.5.1 Projector Address

Projectors leaving production are all set to a projector address "**255**". When installed in a Display Wall, every projector has to get a unique address via it can be controlled. This address can be set between 0 and 9 (IR Remote-Control) or between 0 and 255 (RS232 Remote-Control). **CAST** as well as the **RS232 command interface** and the **IR Remote-Control Unit** will talk to a specific projector by means of this address.

By means of the **common RC5 address** the IR Remote-Control can talk simultaneously to all projectors of a Display Wall.

The common RC5 address can be set either to 0 or to 1.

Please note that CAST (Color Adjustment Service Tools) requires that the projector addresses are assigned as indicated in the picture below.

It is highly recommended to follow this instruction in case for the future use of CAST!

Figure 8-10
projector addresses as required by CAST, Display Wall seen from front, A: top row

To modify the projector address:

- Move the cursor to **Projector Address.**
- Press **Enter** to select.

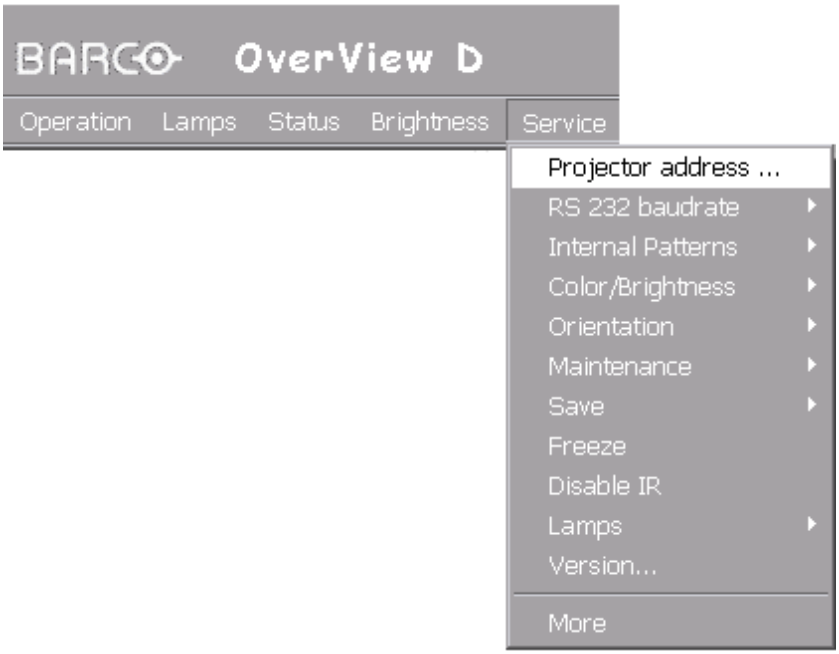


Figure 8-11
Service Menu, Projector Address

The projector address and the common RC5 address is displayed.

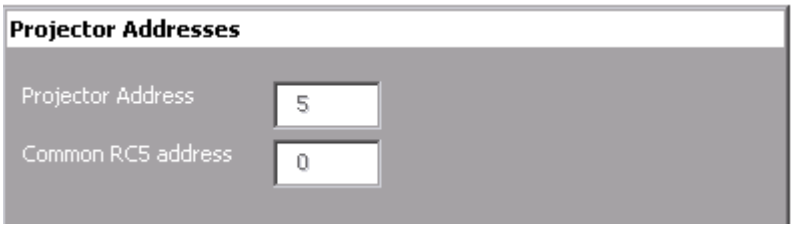


Figure 8-12
Projector Address and common address

The projector address is set to five, and the common RC5 address is zero. Therefore the projector will listen to commands received from an IR Remote-Control unit with the address “5” and with the address “0”.

To change a value:

- Move the cursor key to the respective field.
- Enter the new value by means of the numeric keys of the IR Remote-Control.

For an application it might be useful to have the Display Wall split into two parts, one with the common RC5 address “0” and one with the common RC5 address “1”.

8.5.1.1 Displaying a Projector Address by means of the Remote-Control Unit

Press the **ADDRESS** key (recessed key on the **RCU**) with a pencil. The projector's address will be displayed in a 'Text box'. This text box disappears after a few seconds.

To continue using the **RCU** with that specific address, it is necessary to enter the same address with the **digit buttons** (address between 0 and 9) within 5 seconds after pushing the address key. For example if the **Address** key displays projector address 005, then press "5" digit button on the **RCU** to set the **RCU**'s address to match the projector's address. Do not press 005 digits. This will address the remote control to '0' and control all projectors in the room.

If the address is not entered within 5 seconds, the **RCU** returns to its default address (**zero address**) and control all projectors in the room.

8.5.1.2 How to Program an Address into the RCU?

Press the **ADDRESS** key (recessed key on the **RCU**) with a pencil and enter the address with the digit buttons within 5 seconds after pushing the **address** key. That address can be any digit between 0 and 9.

8.5.2 RS232 baudrate

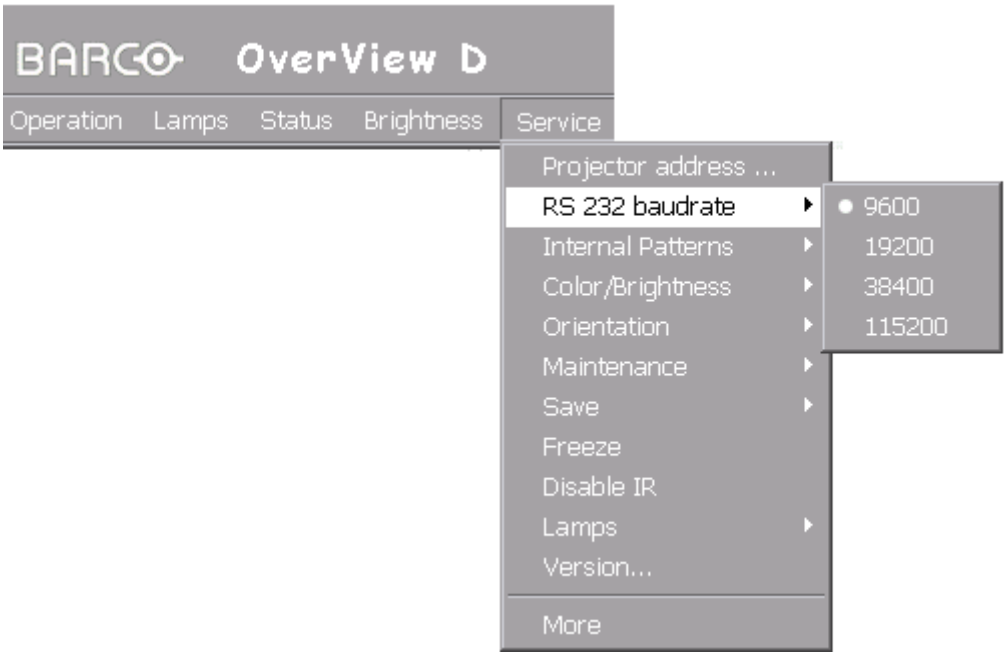


Figure 8-13
Service Menu, RS232 baud rate

For servicing reasons, higher baud rates can be selected.

Please keep in mind that with firmware 2.x 115200 should only be selected in a single projector connection.

Standard baud rate which is supported by wall management software is still 9600!

However, projectors with Firmware 3.x might be operated with the OverView Control Manager at 115200.

8.5.3 Internal patterns

Use **Internal Patterns** to check some properties of the system.

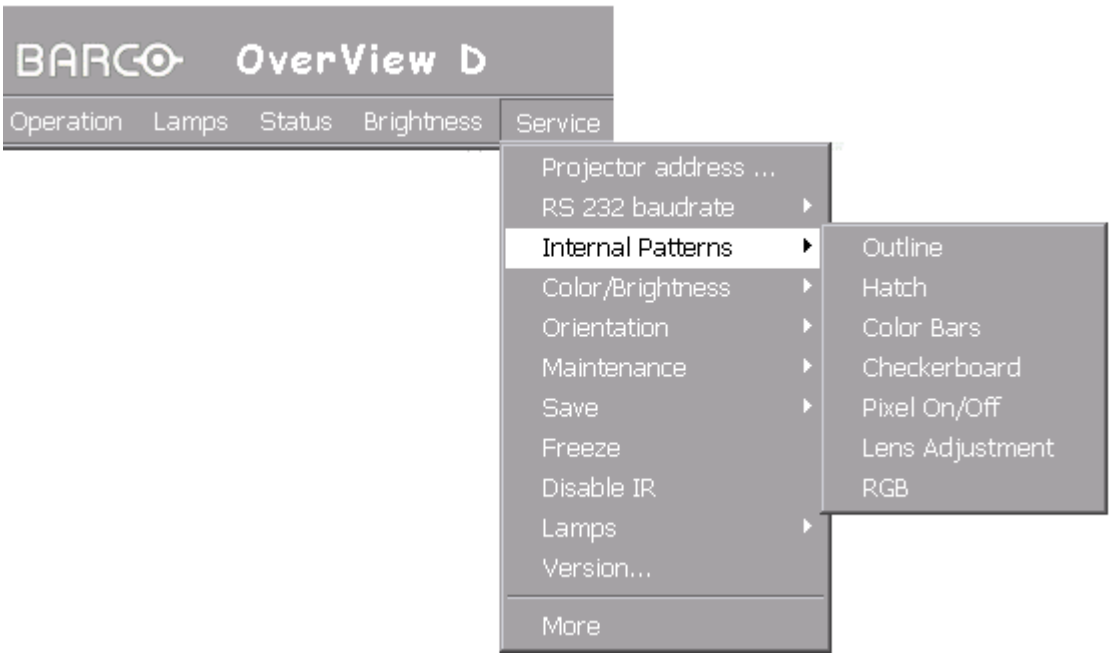


Figure 8-14
Service Menu, Internal Patterns

- Move the cursor to Internal Patterns
- Press enter to select

A list of available patterns is displayed.

- Move the cursor key to select the desired pattern.
- Press **Enter** to select.

The test pattern is applied.

The following table gives some recommendations what the various test pattern can be used for:

Pattern	**use**
Outline/Hatch	for geometry adjustment
Color bars	to check primaries and secondaries
Checkerboard	to check for straylight
Pixel On/Off	to check electronics and projection lens performance
Lens Adjustment	to check the projection lens adjustment
RGB	arbitrary colors, explanation see below

8.5.3.1 The RGB test pattern

By means of the RGB test pattern menue, any desired colorc can be applied.

Selecting **Service|Internal Patterns|RGB** displays the following dialog box:

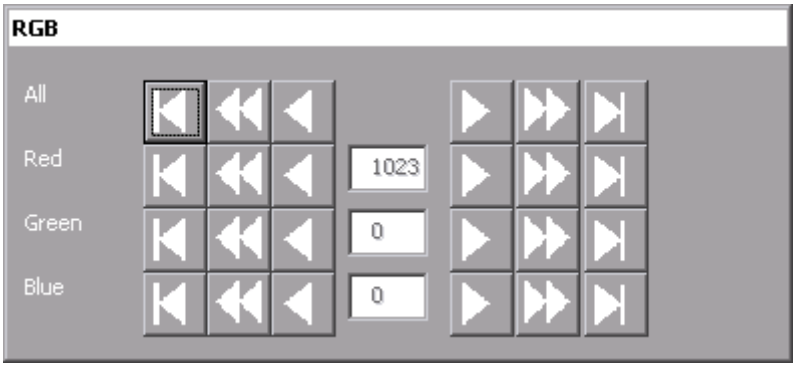


Figure 8-15
dialog box to define the desired color

On this dialog box, the values for red, green, blue can be entered by means of the arrow buttons.

Arrows pointing to the left decrease a value, arrows pointing to the right increase a value.

Clicking on a single arrow increases (▶) /decreases(◀) the value per **1**.

Clicking on the double arrows increases (▶▶) /decreases (◀◀) the values per **64**.

Clicking on the right most / left most arrow sets the value to the maximum (**1023**) or minimum (**0**).

Using the **All** button will manipulate all individual RGB settings to be equally increased or decreased, respectively.

Besides the dialog box to enter the RGB values, a square frame is displayed to indicate the center of the screen.

Both, the RGB value dialog box and the square frame can be switched on/off by pressing the text button on the IR Remote-Control Unit.

8.5.3.2 Understanding the color values

Since the ASIC• allows 10 bit input per color, on this dialog box the values are in the range from 0 to 1023.

The relationship to 8-bit input DVI RGB-Data is given by:

$$(R,G,B)_{intern} = (4*R-1,\ 4*G-1,\ 4*B-1)_{extern}$$

for example :

$$(511,\ 439,\ 1019)_{intern} = (128,\ 110,\ 255)_{extern}$$

•ASIC: application specific integrated circuit

8.5.4 Color/Brightness

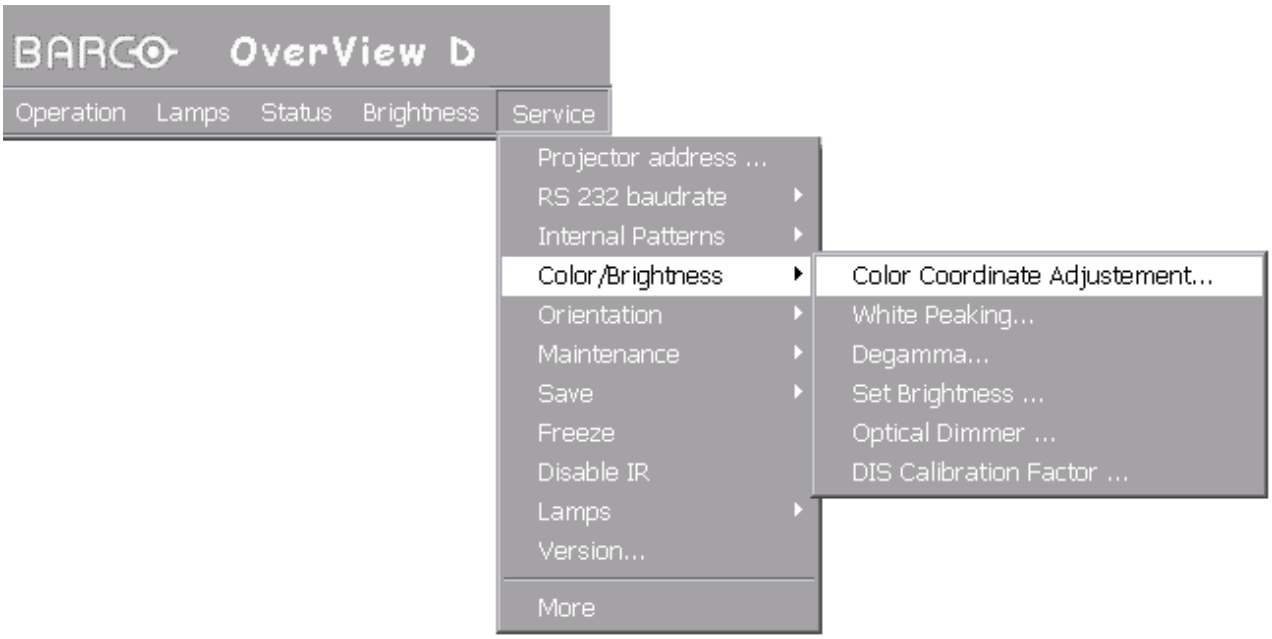


Figure 8-16
Service Menu, Color/Brightness

8.5.4.1 Color Coordinate Adjustment

Color Adjustment has to be done by CAST!
Only very experienced personnel in possession of a spectrometer should access this menu!
In case there is an urgent need to use this menu item, make sure that White Peaking is set first.
Color adjustment is only valid for one White Peaking value.

This menu provides some essential information for the ASIC: the factory colors of the DLP engine and the desired target colors.

The color locations for DLP are indicated in coordinates of the x, y color space (CIE 1931).

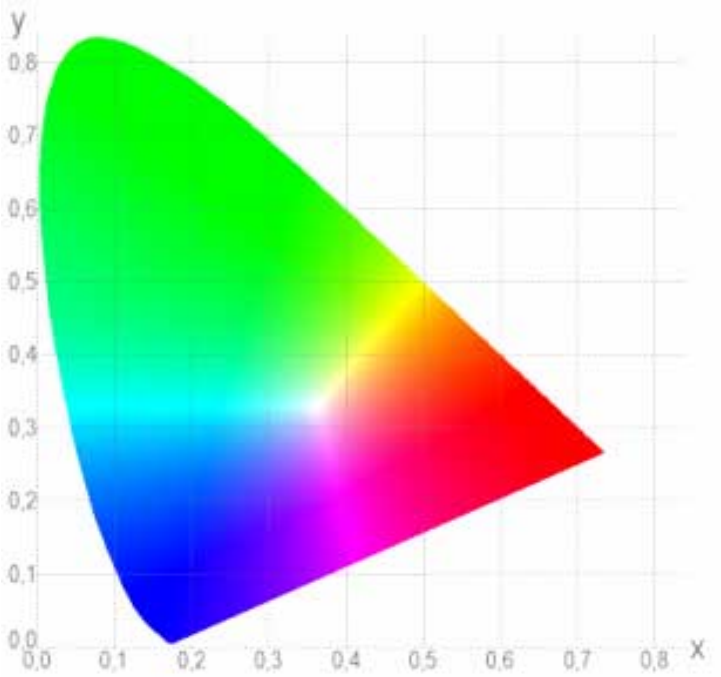


Figure 8-17
Chromaticity diagram, CIE 1931

The ASIC needs to know the uncorrected color coordinates for red, green, blue and white as well as the relative lumens of each color.

On the **Color Coordinate Adjustment** dialog this information is related to **Measured**.

(CAST provides this information by measuring the **factory colors**).

The ASIC then needs to know the target color coordinates for all primary colors, for all secondary colors, and for white (R, G, B, C, M, Y, W: "7 primary colors processing")

On the **Color Coordinate Adjustment** dialog this information is related to **Desired**

(CAST provides this information by determining the **Target**)

Selecting **Service | Color/Brightness | Color Coordinate Adjustment** displays the following dialog box:

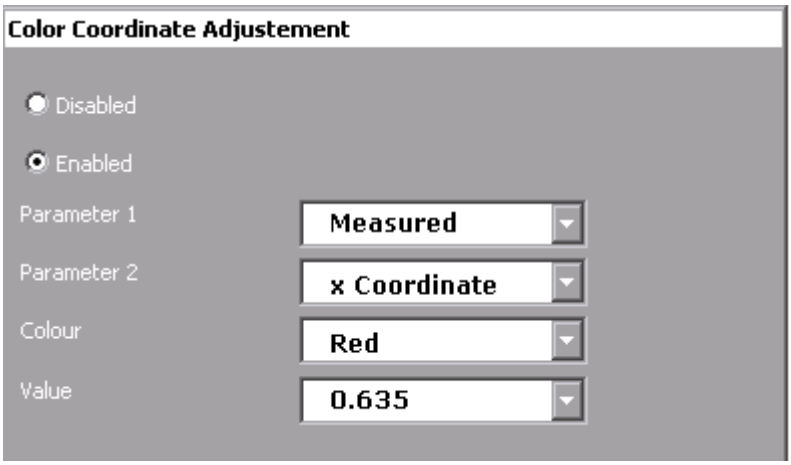


Figure 8-18
dialog box Color Coordinate Adjustment

The dialog box refers to the active lamp!
The data need to be set individually for each lamp!
The Enable/Disable selection always refers to both lamps!

Click on the arrow next to the respective text field to get a list of the available options:

Parameter	Possible value
Parameter 1	Measured Desired
Parameter 2	X coordinate (should be within the measured triangle of the factory colors) Y coordinate (should be within the measured triangle of the factory colors) Luminance (if Parameter 1 == Measured), otherwise grayed out The relative luminance of a color is defined as the ratio of the luminance of this color to the luminance of white (which – per definition – equals 1). Gain (if Parameter 1 == Desired), otherwise grayed out. Gain should be set to **1** to prevent clipping!
Colour	Red Green Blue Cyan Yellow Magenta White
Value	Value of coordinate in the x, y chromaticity diagram, CIE 1931

There are transformation algorithms between the different color spaces. CAST allows to switch between the presentation of the coordinates in the u', v' color space (CIE 1976) and the x, y color space (CIE 1931).

The DLP Engine itself only "knows" the x, y color space, and requires that the values are entered as x, y coordinates.

Only experienced personnel should edit this dialog! There is a risk of severe damages!

Use CAST to do the color adjustment.

Due to the influence of the dimmer the values indicated by CAST and those listed on this dialog might slightly differ.

Changes become only active if **Enabled** is checked and if the menu is left by pressing the **Exit** button on the IR Remote-Control Unit.

8.5.4.2 White Peaking

After changing the White Peaking Value, the color adjustment has to be repeated!

The color correction model is only valid for one White Peaking Value setting!

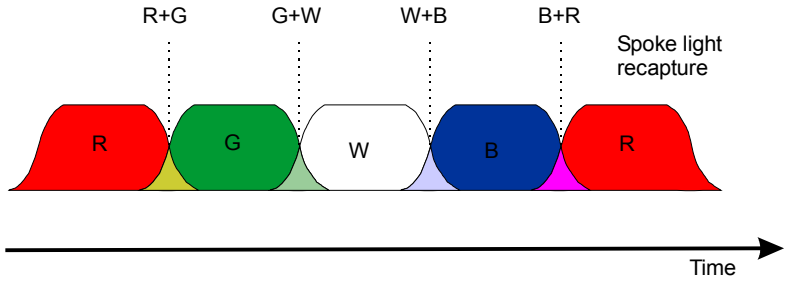
Before setting the **White Peaking** value, some background information on the generation of white is required.

The color wheel incorporated in the DLP projection engine has 4 sectors: red (**R**), green (**G**), white (**W**) and blue (**B**)

"White" is generated by the primary colors, via the addition of full red, full green, and full blue. W1 = **R** + **G** + **B**

"White" is also generated by the white segment: W2 = **W**

"White" is also generated by the so-called spoke light recapture: If the DMD is left ON while the color segments change, there are additional contributions of adjacent segments:



Spoke Light Recapture (**SLR**) = (R+G) + (G+W) + (W+B) + (B+R) = 2*(R+G+B) + 2*W = W3

In case the white segment and spoke light recapture are activated, the white output is boosted.

The **White Peaking Factor** is defined as the relation of "all whites" to the RGB-White:

$$White\ Peaking\ Factor = \frac{W1 + W2 + W3}{W1} = \frac{RGB + W + SLR}{RGB}$$

It's obvious that the minimum of the **White Peaking Factor** equals 1 (no white segment, no spoke light recapture).

The maximum of the **White Peaking Factor** (all three contributions) is about 1.8. It varies slightly with different lamps.

The White Peaking Factor can be linear scaled between its minimum and its maximum by means of thw White Peaking Value.

The **White Peaking Value** can be set by means of the command **Service|Color/Brightness|White Peaking**.

A dialog box is opened where the desired **White Peaking Value** can be entered.

Figure 8-19
Adjusting the White Peaking Value

A **White Peaking Value** of 10 is related to the **max**. **White Peaking Factor** (1.8; incl. white segment, spoke light recapture).

A **White Peaking Value** of 0 is related to the **min**. **White Peaking Factor** (0, no white segment, no spoke light recapture).

The intermediate values are set by means of the corresponding **White Peak Value**, which are listed in the following table. Please note that the table lists approximate values:

White Peaking Value	White Peaking Factor
0	1
1	1.08
2	1.16
3	1.24
4	1.32
5	1.4
6	1.48
7	1.56
8	1.64
9	1.72
10	1.8

The White Peaking Value must not be changed after color adjustment!
The color correction model is only valid for one White Peaking Value setting!
The White Peaking Value has also impacts on the gamma valu, cf. Degamma

8.5.4.3 Degamma

Use **Service | Color/Brightness | Degamma** to change the gamma value.

A list of the available gamma values pop up. The current setting is indicated by a white dot.

Figure 8-20
list of available gamma values

Disable applies a gamma value of "1"

For OverView D series, do NOT use any of the TI gamma values.
gamma = 2.7 should be used with utmost care!

Influence of White Peaking on Gamma

For DLP projection engines which use the white segment and spoke light recapture, the influence of the gamma value on white and on gray levels is much higher. The primary colors and secondary colors are not affected. The following table shows the selected gamma value and its effective equivalent:

gamma value (White Peaking value = 0)	effective gamma value (White Peaking value = 10)
1.0	1.6
2.0	3.2
2.2	3.4
2.3	3.6
2.7	4.0

Due to the White Peaking, for white and gray (R=G=B) even a gamma value of "1" (disabled) results in a non-linear effective gamma curve and thus in a non-linear response.

It is recommended to set the White Peaking value first and then adjust the gamma accordingly!

A subsequent change of the White Peaking value will influence the gamma response.

The following diagrams show the gamma curves for the gamma values 1 and 2.3 for an operation without white segment and without spoke light recapture (White Peaking =0) and for an operation with full white segment and full spoke light recapture (White Peaking = 1). These diagrams clearly show the influence of the **White Peaking** value on the gamma curve.

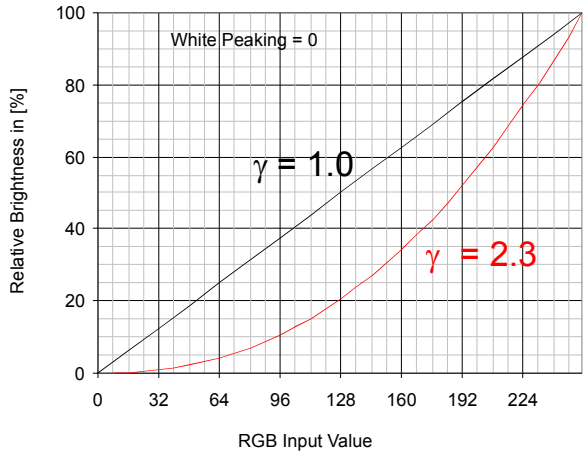


Figure 8-21
gamma curves, no White Peaking

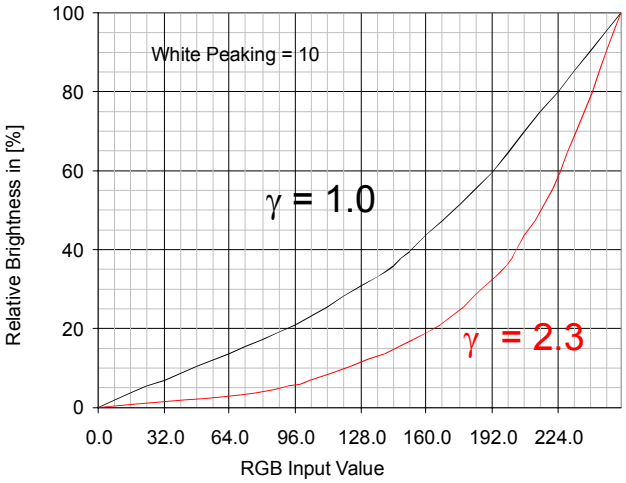


Figure 8-22
gamma curves, full white peaking

Since the effective gamma values are enlarged due to White Peaking, the default setting for OverView D is 2.0

Please note that this effect only applies for white and gray (R=G=B). The primary colors and secondary colors are not affected, for those the set gamma value is exactly the effective gamma value.

8.5.4.4 Set Brightness

Before setting brightness, it is recommended that Lamp Optimization, (cf. Lamp Optimization) has been performed at least once per lamp!

Use this menu to switch between a relative brightness setting and an absolute brightness setting.

Per factory default, in new systems the value is set to relative (no brightness information about the used lamp is available).

In running system, the correct setting is absolute brightness (measured by means of the DIS sensor, and the target value should be the same for all projection modules of the configuration in order to ensure a homogeneous brightness distribution.

Changing the brightness setting, requires the following steps:

- Move to **Service | Color/Brightnes | Set Brightness**
- Press **Enter** to select.

The following dialog box is displayed to show/to select the brightness setting and to see/change the corresponding values.

Set Brightness, Relative (uncontrolled mode)

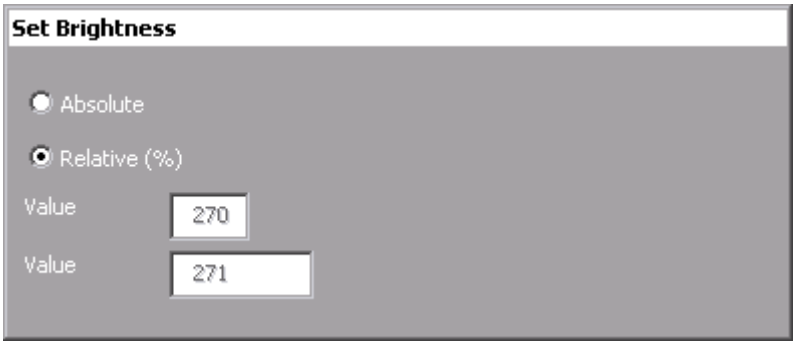


Figure 8-23
dialog box Set Brightness, relative mode activated

In this mode, **Value** refers to a percentage of the maximum brightness. This value corresponds to a specific position of the **Optical Dimmer** (the position is determined by means of a look up table, cf. **Error! Reference source not found.**). As mentioned above, per factory default brightness is set to **Relative,** and the dimmer is set to allow maximum brightness (100%).

In this operation mode, the entries of the **Brightness** menu are grayed out, since these refer to absolute values!

Figure 8-24
Brightness menu entries are grayed out

The dimmer will be positioned immediately after entering a new target value, and the related DIS value is adjusted accordingly.

Due to the fact that the lamps show tolerances in burner position and arc length, multiple lamps with the identical relative brightness value will show differences in emitted brightness. This can be checked by reading out the value of the direct illumination sensor (**DIS**).

In relative mode, values can be entered in the range from 50 to 100 (50% to 100%).

To modify the light level:

- Use the cursor keys to set the focus to the **Value** text field.
- Press **Enter** to activate.
- Use the left/right cursor key to decrease/increase the value, or set a new value by means of the numeric keys on the Remote-Control unit.

Since it is the result of the measurement, the **DIS** value cannot be modified, it is read-only.

Set Brightness, Absolute (controlled mode)

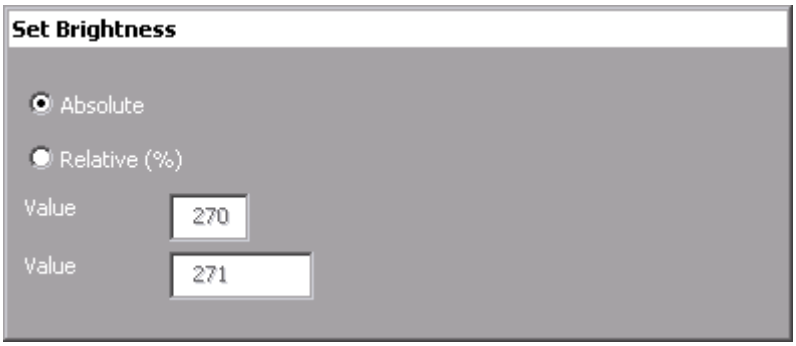


Figure 8-25
Dialog box Set Brightness, absolute mode activated

It is recommended first to run DIS calibration, cf. DIS Calibration Factor!

In this operation mode, the dimmer is positioned by the brightness control algorithm utilizing the readout level of the direct illumination sensor **DIS** as feedback signal.

The control loop is triggered each time a new target value is entered. It also becomes active after change of mode from **relative** to **absolute**. The control loop stops once the target value is reached within an accuracy limit of ± 1%. Typically this takes about 10 sec.

The target value is in same units as the **DIS** value. If the **DIS** is calibrated to lux by appropriate setting of the **DIS calibration factor**, then the target value is to be entered in lux.

If the dimmer fails to reach the target brightness because it is operated at it's upper or lower limits an error message will show up.

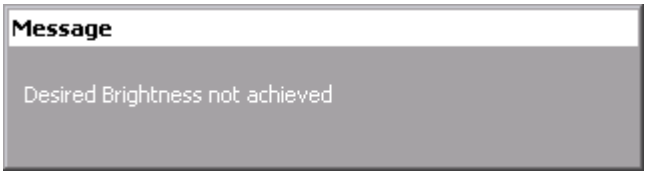


Figure 8-26
message at dimmer range limit

Please note: this error message does not indicate a dimmer failure!

This message indicates that the dimmer cannot achieve the desired value but operates at his limits (100%, or 50% respectively).

In this operation mode, the commands of the Brightness menu are available:

Figure 8-27
Brightness menu commands are available

8.5.4.5 Optical Dimmer

OverView D uses a dimmer wheel with a variable slit. The slit defines the light aperture of the light pipe entry.

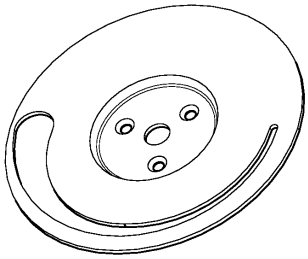


Figure 8-28
Dimmer Wheel, variable slit

The amount of light emitted into the projection unit depends on the position (i.e. slit width) of the dimmer wheel.

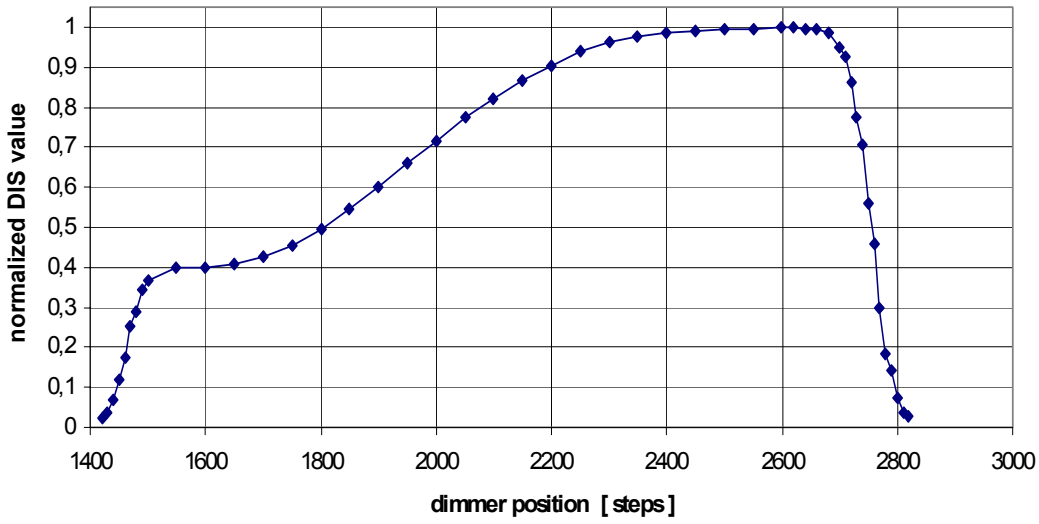


Figure 8-29
intensity of emitted light depends on the position of the dimmer wheel

Only dimmer positions between (approx.) 1600 (minimum brightness) and (approx.) 2600 (maximum brightness) can be addressed.

The dimmer wheel can be enabled or disabled by means of the menu
Service | Color/Brightnes |Optical Dimmer.

If **Optical Dimmer** is selected, a dialog box pops up where the current status is indicated and where this status can be changed:

Figure 8-30
Dialog Box to enable/disable the optical dimmer

The correct setting is Enabled!

Disabled should only be selected in case the dimmer is defective (stuck)!

Optical Dimmer, enabled

This is the default setting. which allows automated brightness control and the lumens lock mode. At reboot the home position of the dimmer is searched.

Since in this operation mode brightness is automatically controlled, the electronic control of brightness and contrast of the IR Remote-Control unit is not available! (No manual interference in the automated operation mode).

Optical Dimmer, disabled

The correct setting is Enabled!

Disabled should only be selected in case the dimmer is defective (stuck)! This mode should only be used by advanced support engineers!

If **disabled** is selected, the dimmer will stay at its current position, and even at reboot no search for the home position of the dimmer is performed.

In this mode the addressing of reference slits on the dimmer wheel will not be available to the lamp optimization algorithm. In consequence it will be less powerful.

A non-uniformity in brightness might appear.

To provide a workaround, brightness and contrast can be adjusted by means of the respective buttons on the IR Remote-Control unit.

Brightness adjusts the offset applied to the RGB input data.

Contrast changes the gain applied to the RGB input data.

The **Brightness** and **Contrast** dialog boxes show up after pressing the **Brightness**/**Contrast** button on the IR Remote-Control unit.

Figure 8-31
Brightness setting, only available if Optical Dimmer is disabled

Figure 8-32
Contrast setting, only available if Optical Dimmer is disabled

Only the settings for the active lamp can be modified. The active lamp is indicated in the caption of the settings dialog.

The values are stored for both lamps individually.

To change the values

- Increase ▶ or decrease ◀ the value by means of the arrow keys.

The menus vanish by pressing Exit on the IR Remote-Control unit or if there is no change within 5 seconds.

Please note:

These settings are only valid for the optical dimmer being disabled. In case the optical dimmer is enabled again, these settings are set back to their neutral positions (50)!

8.5.4.6 DIS Calibration Factor

The DIS Calibration Factor is determined by CAST.

Only experienced user equiped with a lux meter should change the value!

All **DIS** values that are displayed and used in the projector are composed by the raw data of the **DIS** multiplied by a calibration factor.

$$DIS\ value = DIS\ Calibratin\ Factor * (1\text{-}correction\ factor) * DIS\ raw\ data$$

This calibration factor can be set by means of the menu **Service | Color/Brightness | DIS calibration factor.**To change the calibration factor:

- Use the cursor key to highlight **DIS Calibration Factor**.
- Press **Enter** to select.

The current **DIS Calibration Factor** is displayed.

Figure 8-33
DIS calibration factor

The DIS Calibration Factor can only be changed for the active lamp!

The DIS Calibration Factor can be changed between 1.000 and 9.999

The DIS Calibration Factor is set for both lamps individually.

How to determine the DIS Calibration Factor

The DIS Calibration Factor is determined by CAST.

The following description applies if there is urgent need to define the DIS Calibration Factor, and if no CAST is available.

To determine the DIS Calibratin Factor, it is mandatory to set the DIS correction factor to 0.0.

This has to be done in the menu Color/Brightness| Set Brightness

To calibrate the DIS, a lux meter is required.

Press the sensor of the lux meter on the screen.

Read the value of the lux meter

Select **Service | Color/Brightness | Set Brightness**

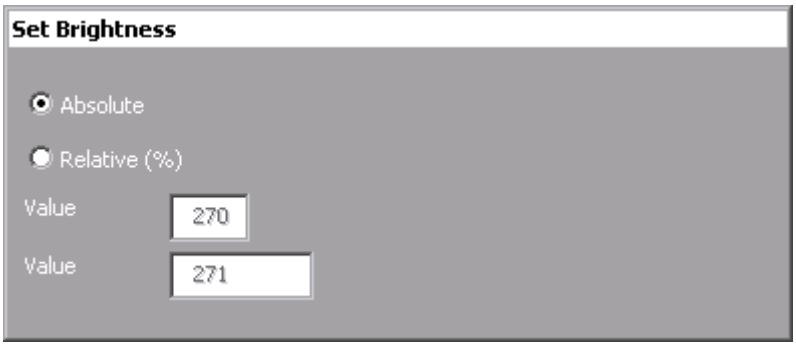


Figure 8-34
DIS value

Make sure that **Absolute** is enabled

Read the **DIS** value.

Now the **DIS Calibration Factor** can be calculated:

$$DIS\ Calibration\ Factor = \frac{Brightness_{Luxmeter}}{Brightness_{DIS\ Value}}$$

8.5.5 Orientation

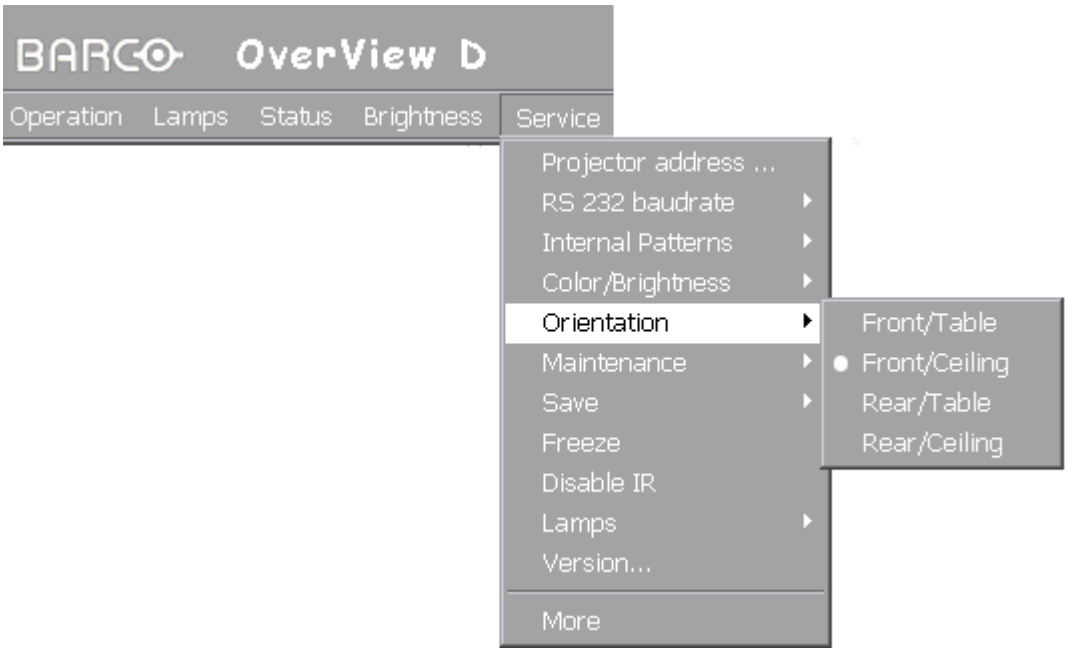


Figure 8-35
Service menu: Orientation

For DLP projection engines incorporated in OverView D systems, this menu entry is irrelavant: The orientation of the projection engine is fixed and defined as **Front/Ceiling**. However, in case your picture is displayed upside down, it might be recommended to check the orientation set on this menu.

(The other orientations are required for test situations with the engine NOT installed in the structure.)

- To check the set orientation, proceed as follows:
- Move the cursor keys to highlight **Orientation**.

Press **Enter** to select.

The possible orientations are displayed. The actual orientation is indicated by a white dot:

For OverView D series, the only correct orientation is Front/Ceiling!

8.5.6 Maintenance

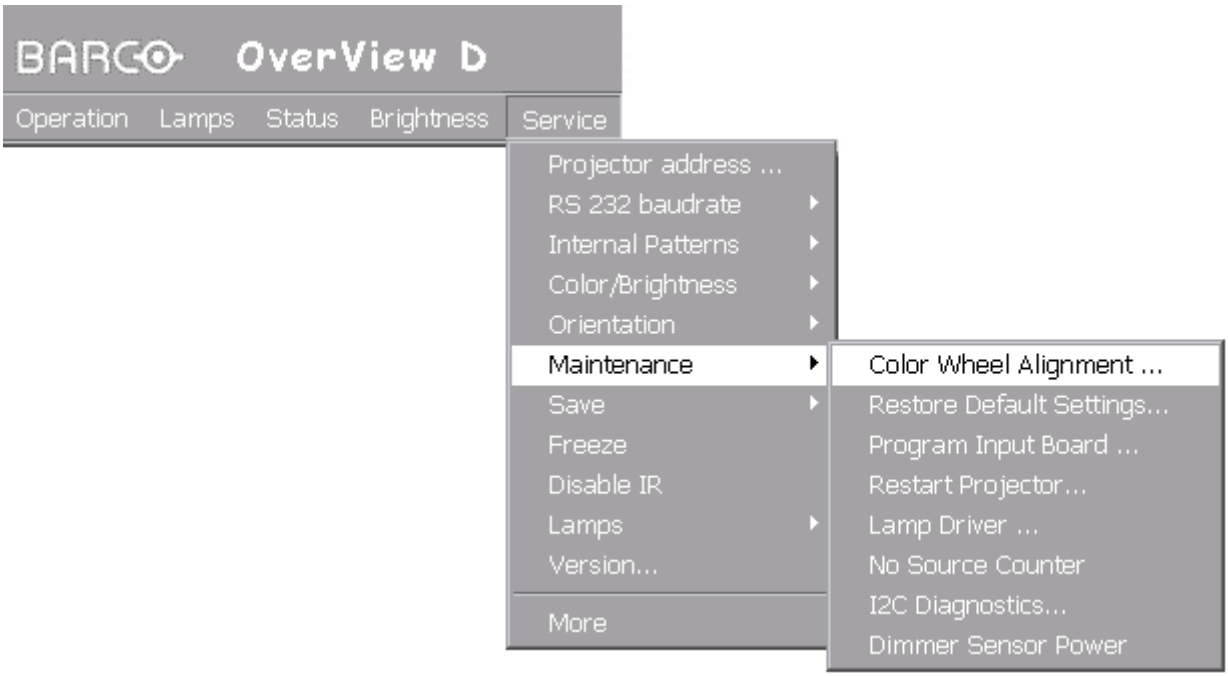


Figure 8-36
Service menu: Maintenance

8.5.6.1 Color Wheel Alignment

This setting specifies the delay value between the color wheel index signal and the DLP electronics. Each step equals 100 ns.

The value is specific for each color wheel cassette and will be programmed in production. Do not change/alter this value!

In case of color wheel exchange a new delay value has to be entered by the support engineer. This specific delay value will be shipped together with the spare color wheel

To enter a new delay value, proceed as follows:

- On the service menu entries, move the cursor to **Color Wheel Alignment**
- Press **Enter** to select.

A dialog box pops up to enter the new value:

Figure 8-37
Index Delay

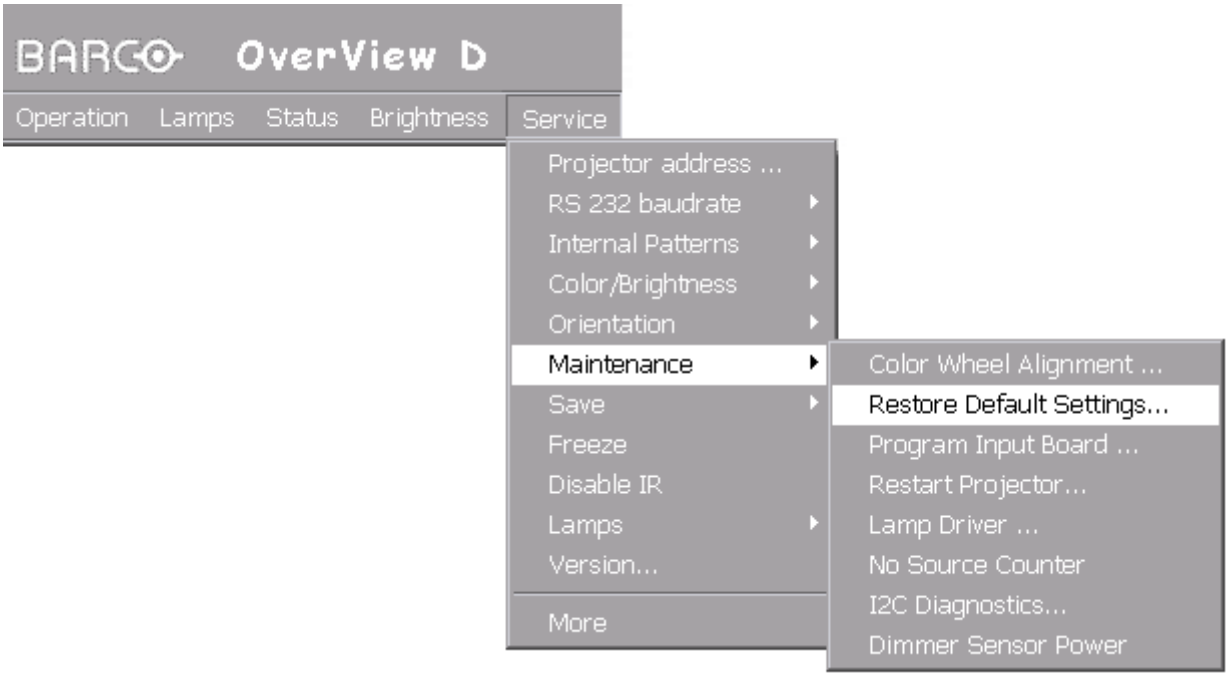
Arrows pointing to the left decrease a value, arrows pointing to the right increase a value.

Clicking on a single arrow increases (▶) /decreases(◀) the value per **1**.

Clicking on the double arrows increases (▶▶) /decreases (◀◀) the values per **10**.

Clicking on the right most / left most arrow sets the value to the maximum or minimum (**0**).

8.5.6.2 Restore Default Settings



By means of this command, the settings stored in production can be applied again.
Restoring can be done for the projection unit and for the illumination unit.

After the Restore command for the respective device, all adjustments will be lost!

To restore the parameters set in production:

- Move the cursor key to highlight Restore Default Settings.
- Press Enter to select.

A selection box shows up to select the device which settings should be restored:

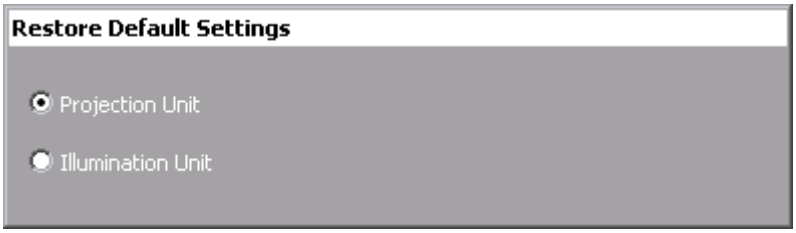


Figure 8-38
select the device to restore its default production settings.

- Move the cursor key to highlight the desired device.
- Press Enter to select.

A warning pops up to inform that the user settings will be lost.

- Select **Yes** to restore the production settings, select **No** to abort the procedure.

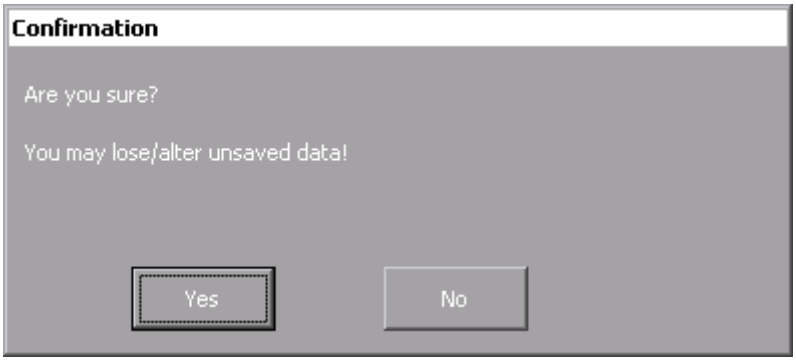


Figure 8-39
warning about the loss of the user settings

8.5.6.3 Program Inputboard

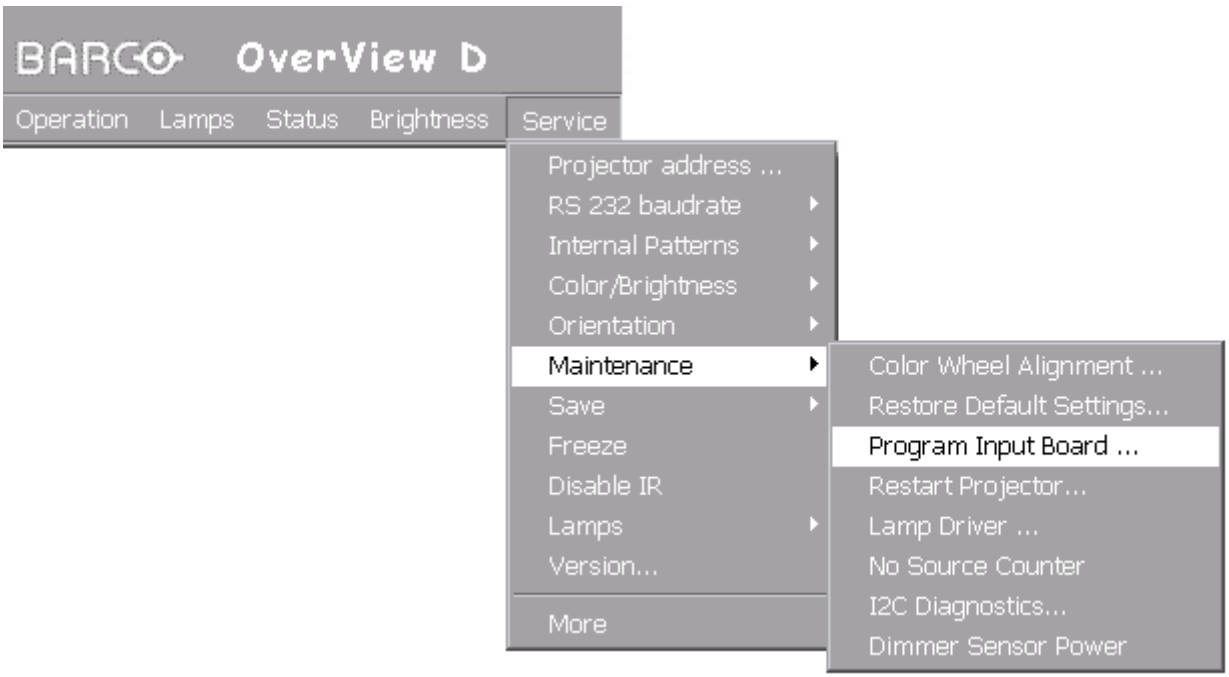


Figure 8-40
Servic|Maintenance|Porgram Input Board

Use this command to program the input board. This procedure is recommended e.g. when replacing the Pico2+ board!

8.5.6.4 Restart Projector

Selecting this command does a switch off – cool down – switch on sequence.

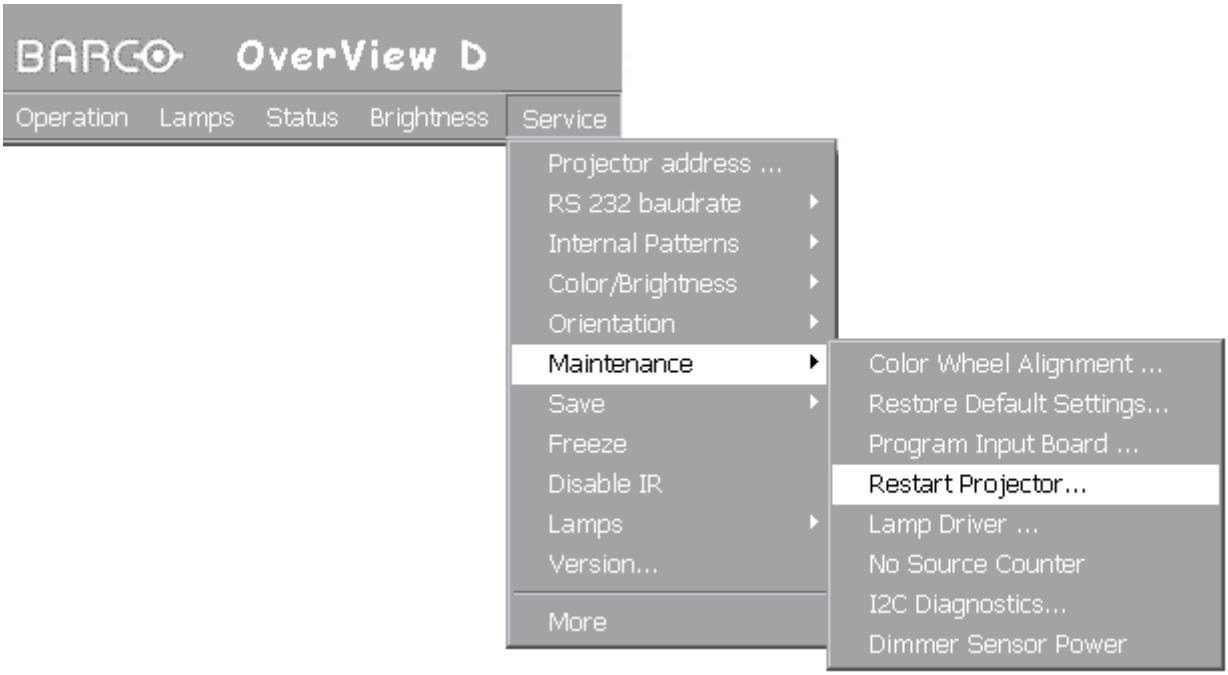


Figure 8-41
Service|Maintenance|Restart Projector

Selecting this comand requires confirmation due to the risk of data loss:

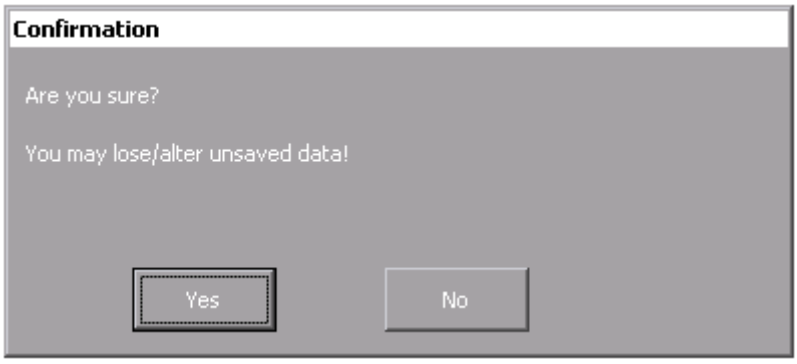


Figure 8-42
warning about the loss of the user settings

8.5.6.5 Lamp Driver

Selecting this entry, displays a list with the lamp drivers of the different versions of the illumination unit:

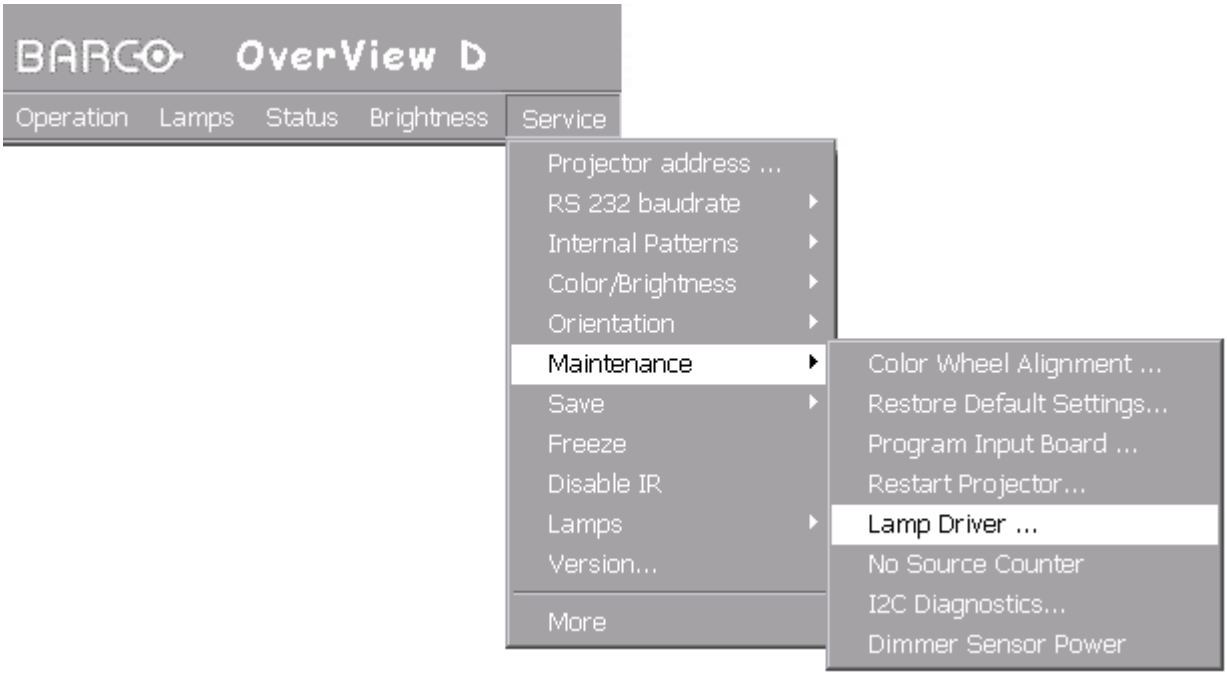


Figure 8-43
Service |Maintenance|Lamp driver

Selecting this command opens a dialog to select the correct lamp driver. Default setting (factory setting) is PowerPack 120W. This selection has to be adjusted according the actual lamp driver employed in the system.

Figure 8-44
select the correct lamp driver

The following table lists the article number of the illumination unit and the required lamp driver:

R764226	Compact
R764581	Powerpack 100W
R764582	Powerpack 120W

Make sure to have the correct settings! Otherwise color artifact and wrong control parameters will affect the performance of the projector! SXGA+ projectors ONLY run with Power Pack lamp driver!

Please keep in mind:

In case of the Powerpack lamp drivers, the following feature is normal and cannot be avoided: During ignition of the lamp some color alternation on the screen will show up for about one second. This behavior can be observed

- When the projector is in cold standby and is switched to hot standby
- When the projector is in cold standby and the active lamp is changed by the operator
- When the projector is in Auto Switch Mode, and the projector initiates the change of the active lamp.

The alternation speed depends on the current projector timing.

8.5.7 No Source Counter

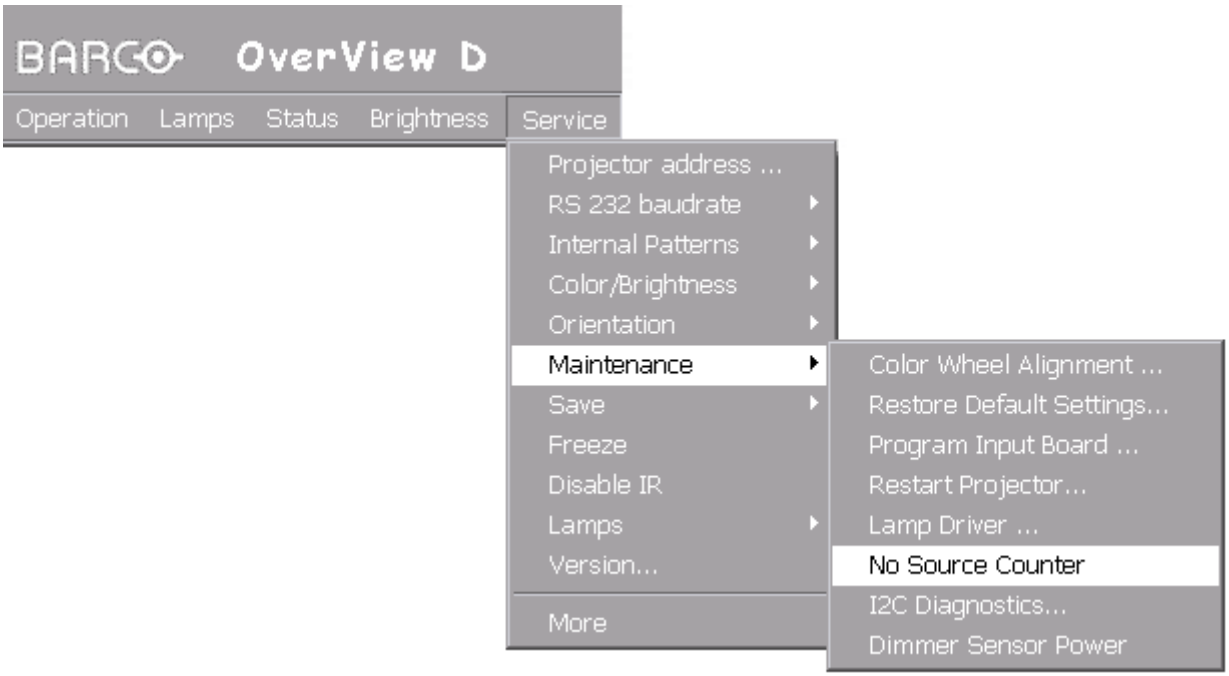
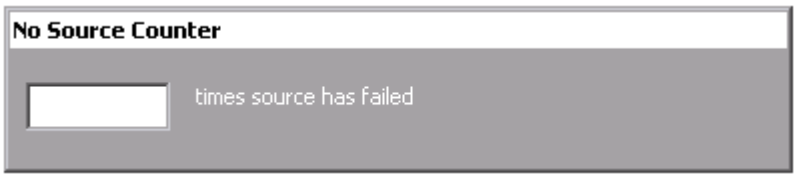


Figure 8-45
Service|Maintenance|No Source Counter

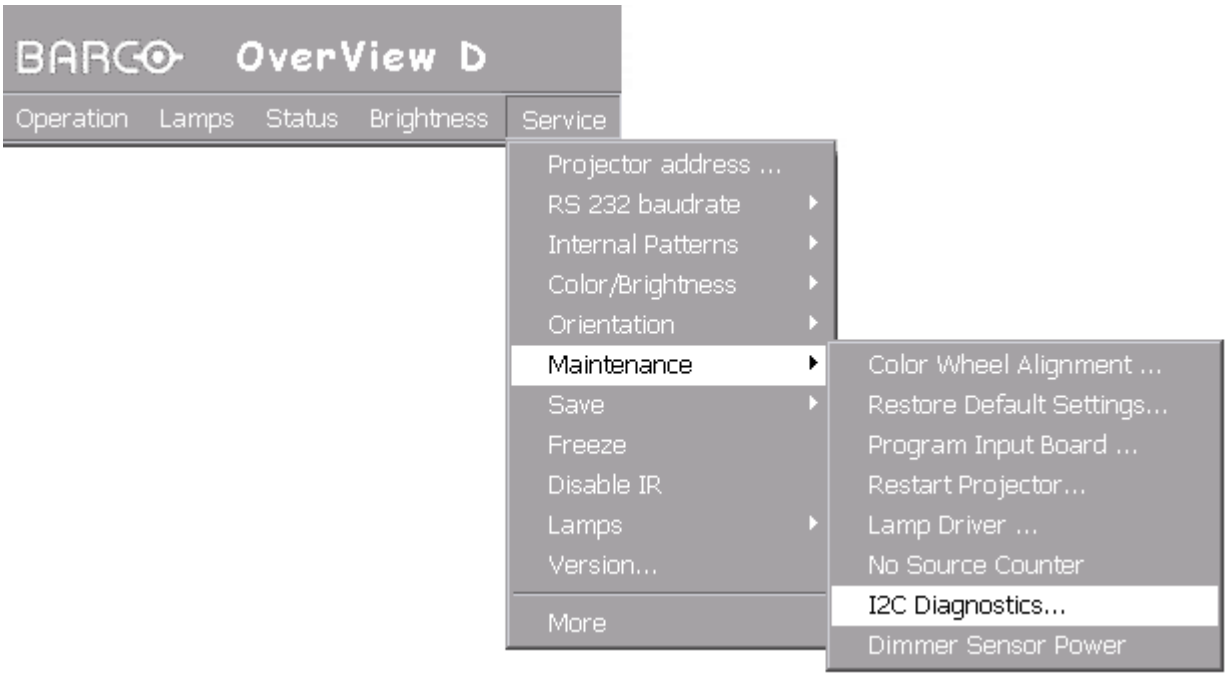
In case of color bar problems (the projector suffers from loss of signal although the sources are connected, this command can be selected to check how often the signal has been lost.

A dialog opens which shows the actual value:



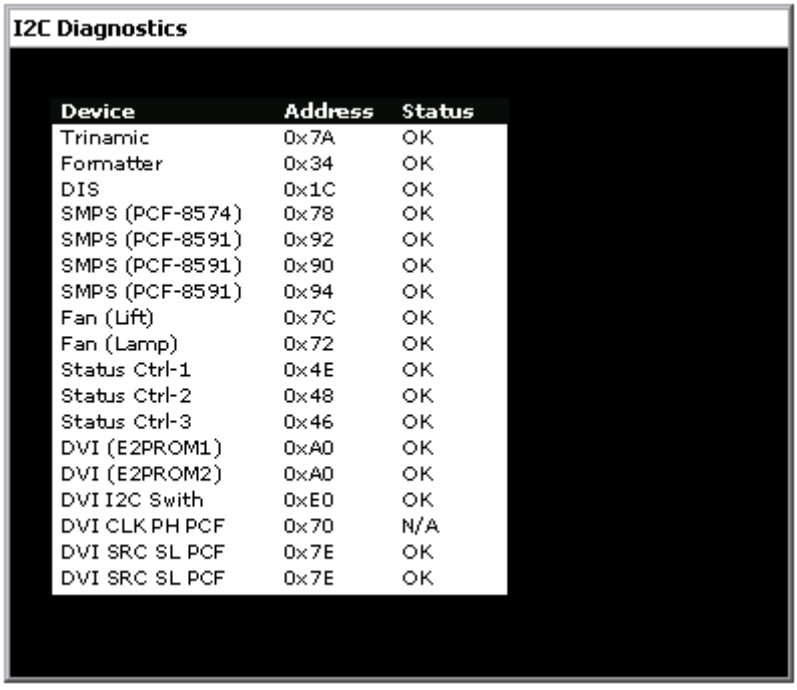
igure 8-46
No Source Counter to check how often the signals has been lost

8.5.8 I2C Diagnostics



igure 8-47
Service|Maintenance|I2C Diagnostics

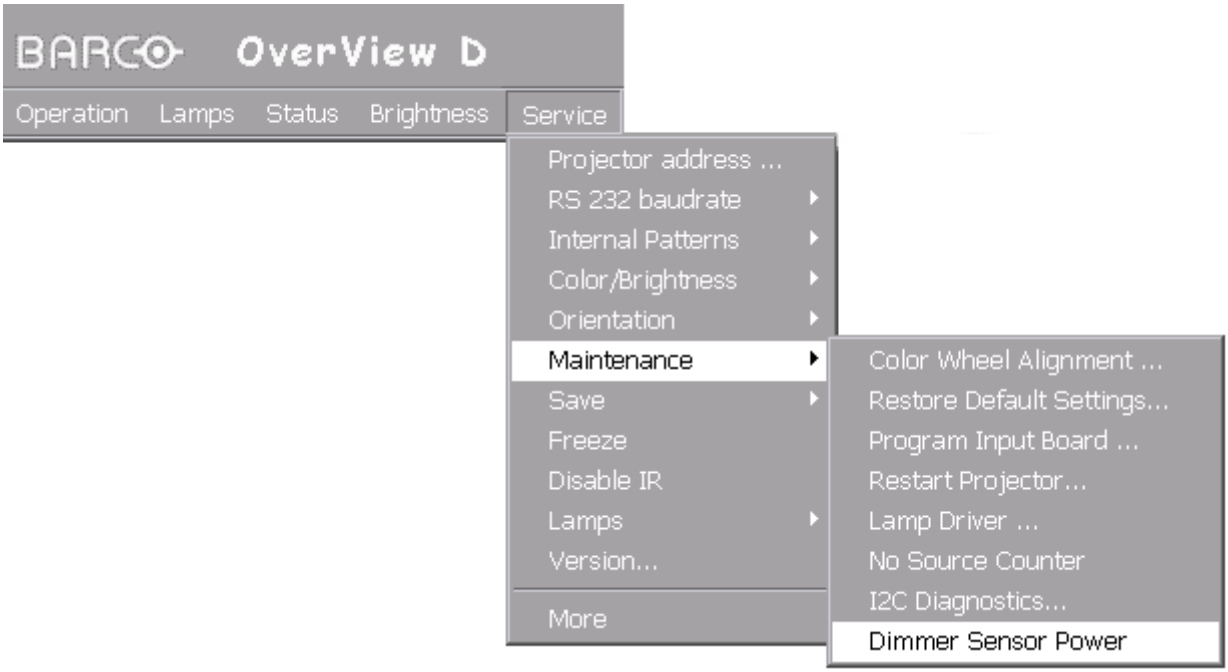
This command displays the I2C Diagnositc table of the devices, including their addres and their status. Consult this table in case an error occurs!:


I2C Diagnostics
Device Address Status
Trinamic 0x7A OK
Formatter 0x34 OK
DIS 0x1C OK
SMPS (PCF-8574) 0x78 OK
SMPS (PCF-8591) 0x92 OK
SMPS (PCF-8591) 0x90 OK
SMPS (PCF-8591) 0x94 OK
Fan (Lift) 0x7C OK
Fan (Lamp) 0x72 OK
Status Ctrl-1 0x4E OK
Status Ctrl-2 0x48 OK
Status Ctrl-3 0x46 OK
DVI (E2PROM1) 0xA0 OK
DVI (E2PROM2) 0xA0 OK
DVI I2C Swith 0xE0 OK
DVI CLK PH PCF 0x70 N/A
DVI SRC SL PCF 0x7E OK
DVI SRC SL PCF 0x7E OK

igure 8-48
I2C Diagnostics information

8.5.9 Dimmer Sensor Power

The dimmer sensors requires to be powered only when performing a reference search. Thus during normal operation the life time of the dimmer sensor could be enhanced by shutting off the power. However, the effects of this have not yet been investigated thouroughly, therefore it is recommended NOT to change the default setting which is enabled.

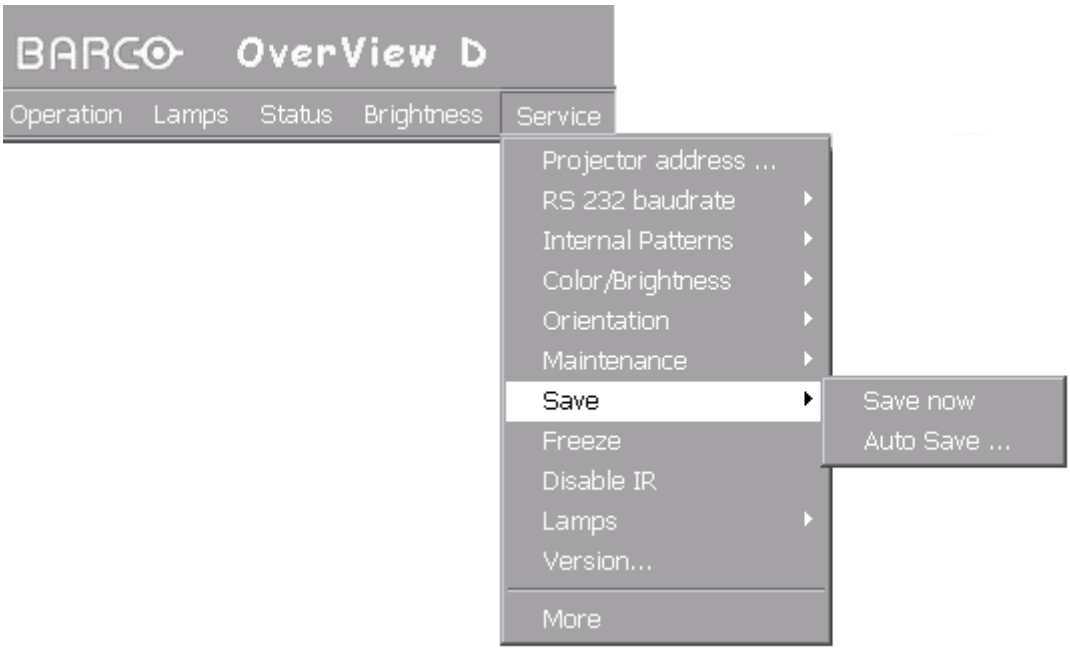


igure 8-49
Service|Maintenance|Dimmer Sensor Power

Disable Dimmer Sensor Power only on special request/special advise.

igure 8-50
enable/disable the dimmer sensor power

8.5.10 Save



igure 8-51
Service|Save

This entry opens a sub menu with the items Save now and Auto save:

Per default, every 15 minutes the projector saves all parameters. During this process, which lasts about 7 seconds, the projector is blocked for communication.

Since this might be annoying in some cases, the new functionalities **Save now** and **Auto Save** have been introduced.

Auto Save allows to disable or enable the regularly saving procedure. If disabled, the projector only stores back a very small subset of the available data, a fast procedure which is hardly noticed. However, changes of parameters like color coordinates will not be stored regularly. To store them, the **Save now** command has to be given.

igure 8-52
enable/diasbale Auto Save

When the projector is switched to standby, it will store all data. No extra "Save now" command has to be given.

8.5.11 Freeze

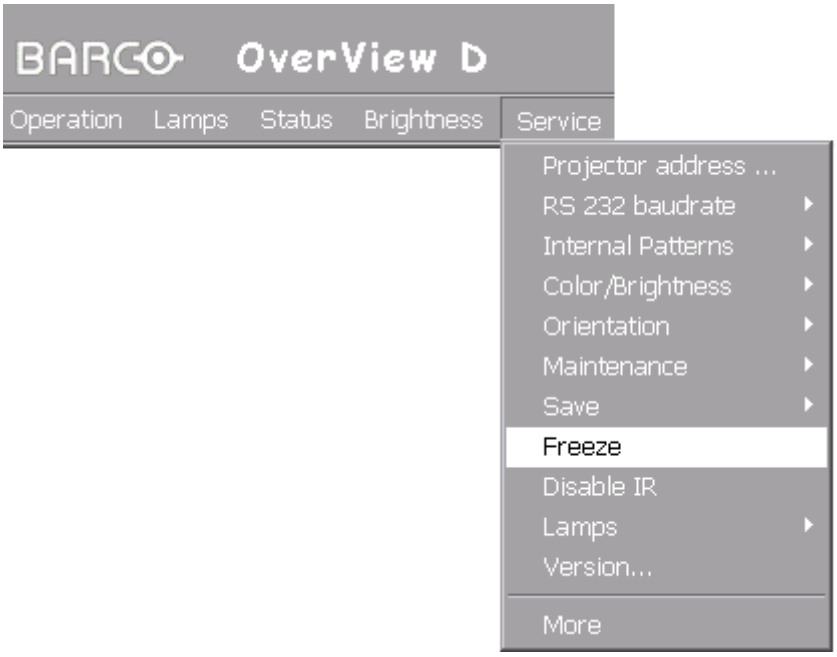


Figure 8-53
Service menu: Freeze

This new function allows to freeze the current picture. The picture will be stored in the formatter board at the end of the data treatement chain. Thus dithering properties which are introduced earlier in the processing chain cannot be observed dynamically. Also the dithering noise is frozen in that case.

8.5.12 Disable IR

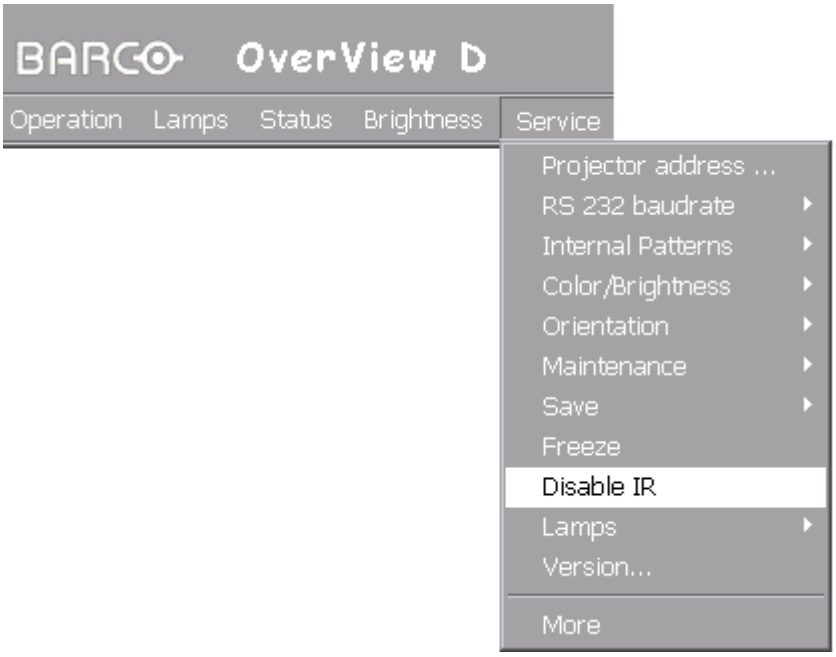


Figure 8-54
Service menu: Disable IR

By selecting this command, all OSD content will disappear and the IR will be disabled. This function is intended to be used to close a service/maintenance session. It goes without saying, that it is impossible to re-enable IR control by using the IR remote control unit.

IR can be enabled using the RS232 remote control, or by pressing the On/Reset button on the rear side for about 10 seconds. After this time the IR will be available again.

Press the On/Reset button for about 10 seconds to enable the IR remote control again!

8.5.13 Lamps

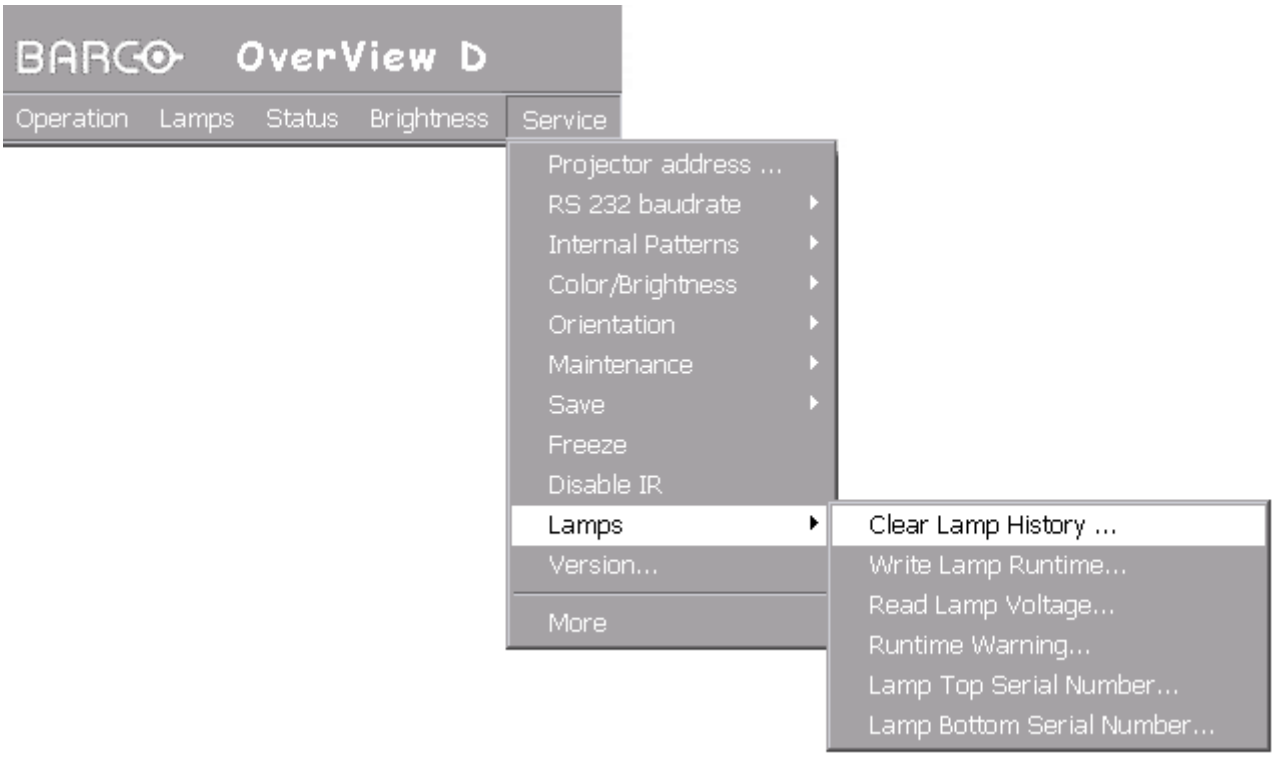
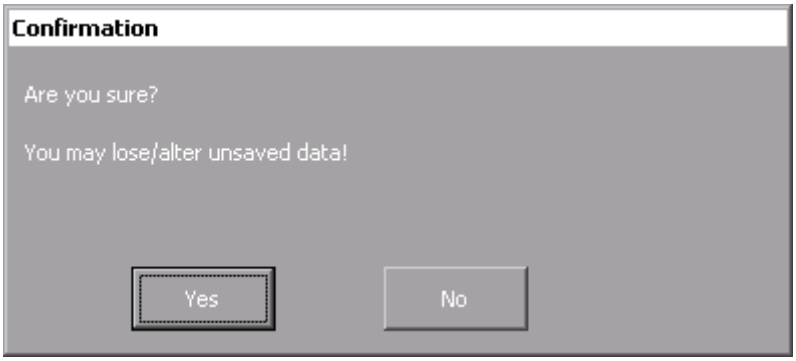


Figure 8-55
Service Menu: Lamps

8.5.13.1 Clear Lamp History

Clear Lamp History will erase all former data of all lamps ever used with the system. Be carefully when selecting this command!



igure 8-56
confirmation dialog

8.5.13.2 Write Lamp Runtime

This command opens a sub menu where the runtimes of lamp top and lamp bottom can be changed. This function is intended to be used together with the function **Lamp Top Serial Number and Lamp Bottom Serial number**. These two commands together allow exchanging lamps within a Display Wall and keep tracking of their runtimes.

Figure 8-57
Service|Lamps|Write Lamp Runtime

8.5.13.3 Read Lamp Voltage

This new function allows the estimation of the burner voltage. Pressing this button will open a sub menu which shows the voltage value after a few seconds measurement time. This measurement is based on some optical properties which are measured and used for voltage determination.

Make sure to select the correct lamp driver! Otherwise the displayed values are invalid!

Figure 8-58
Service|Lamps|Read Lamp Voltage

8.5.13.4 Runtime Warning

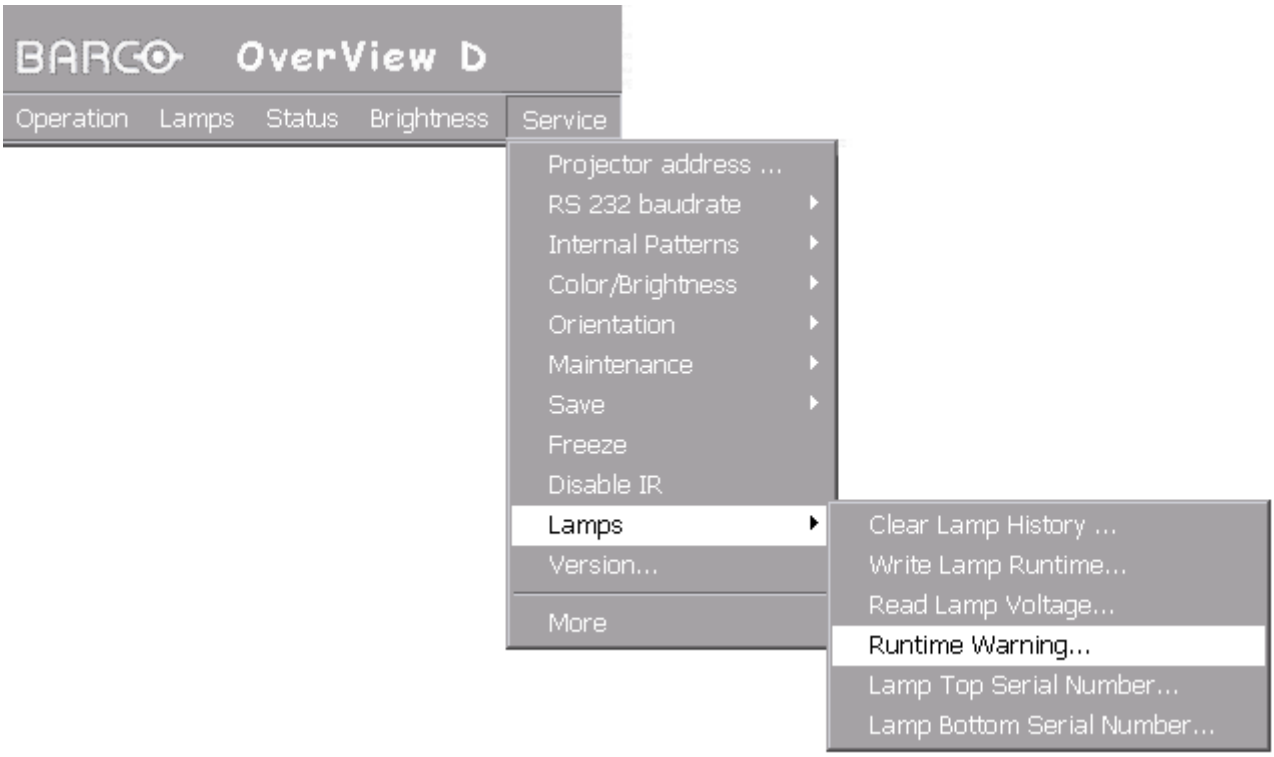


Figure 8-59
Service|Lamps|Runtime Warning

In this menu the limit for a **Lamp Runtime Warning** can be set in the range 0 hours to 15000 hours. Default value is 6000 hours (nominal operation time of the 120W UHP lamps).

- Move the cursor key to Runtime Warning
- Press Enter to select.

A dialog pops up where the current lamp runtime is indicated.

Figure 8-60
Lamp Runtime Warning set to 6000 hours

After the specified runtime time a warning message will appear on the screen.

Figure 8-61
Lamp Runtime Warning

To change the specified runtime:

- Move the cursor key to the respective field.
- Enter the new value by means of the numeric keys of the IR Remote-Control.

in Hot Standby mode. the warning pops up if the operation time of one of the lamps exceed the specified value.

In Cold Standby mode: the warning pops up if the operation time of the active lamp exceeds the specified value.

8.5.13.5 Lamp Top Serial Number / Lamp Bottom Serial Number

This menu allows to change the serial number of the currently used lamp, and should be used in conjunction with the menu **Write Lamp Runtime** as mentioned above.

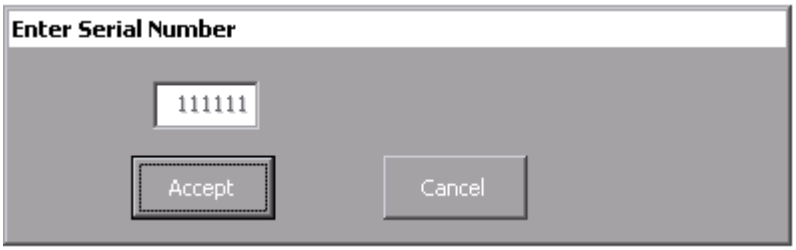


Figure 8-62
Enter serial number (after lamp exhange)

Use these commands when exchanging lamps within a Display Wall.

8.5.14 Version

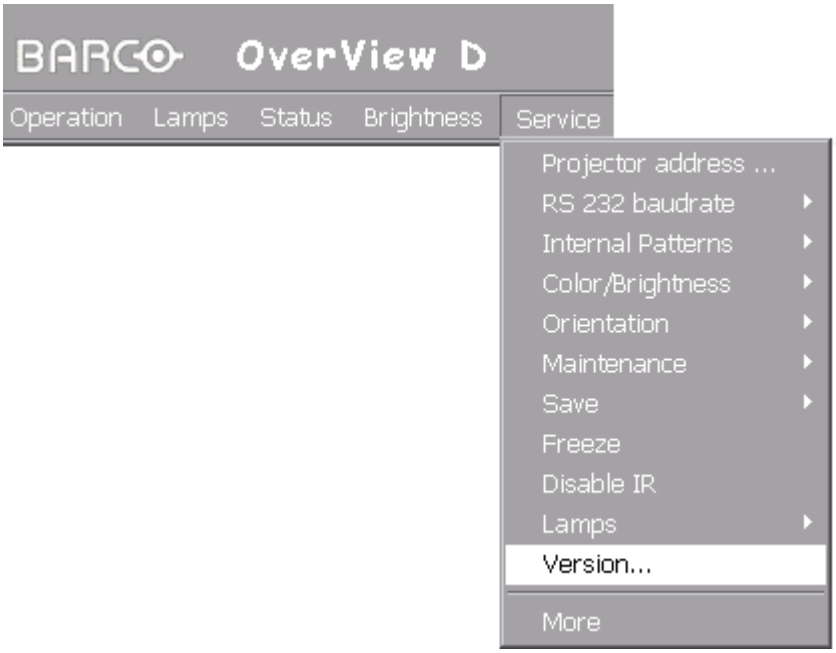


Figure 8-63
Service menu: Version

Select this command to see the release status of different modules of the firmware.

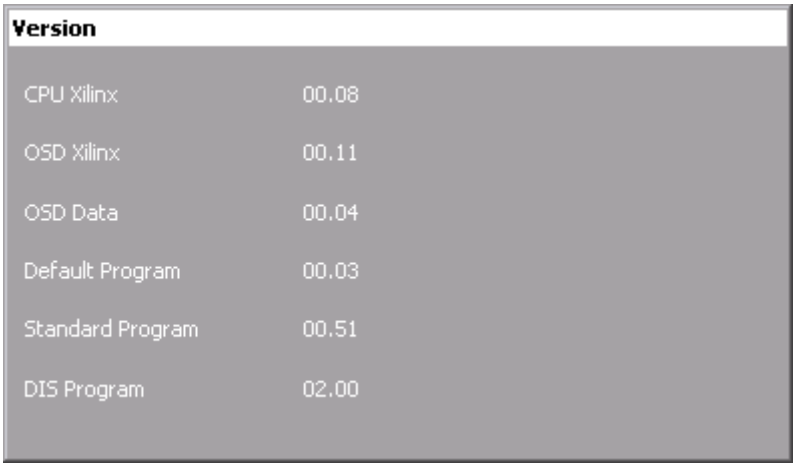


Figure 8-64
Service|Version

8.5.15 More

The **More** menu gives access to activate the **Hot Standby** mode, which is only accessible with an authorization code.

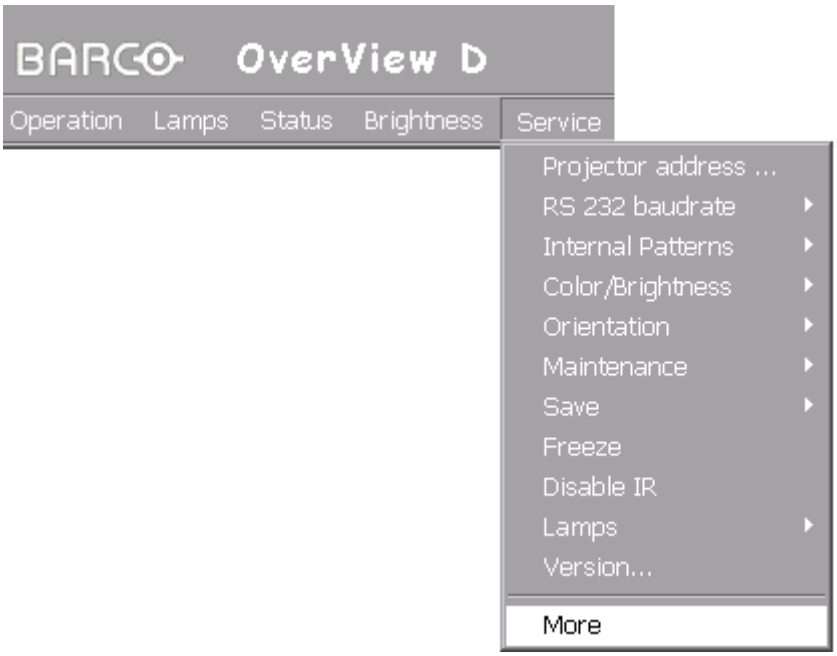


Figure 8-65
Service menu: More

To access the **Hot Standby** option:

- Use the cursor key to highlight **More**
- Press **Enter** to select.

A dialog box opens to enter the **Authorization Code**:

Figure 8-66
Access requires Authorization Code

Contact Bernard Geitz to receive the projector-specific Authorization Code
(email: bernhard.geitz@barco.com; **phone +49 721 6201 110)**

- Use the numeric keys of the IR Remote-Control unit to enter the **Authorization Code**.

The correct **Authorization Code** opens a dialog box to enable (On)/disable (Off) **Hot Standby** Mode:

Figure 8-67
dialog box to switch on/off Hot Standby functionality

In case Hot Standby is enabled, it is mandatory to inform Project Management. Hot Standby requires special actions, e.g. with service contracts.

9 Updating projectors to Firmware 2.0

Firmware 2.0 of the OverView D projectors, amongst other features the following improvements:

- SXGA standard timing now at 60Hz
- Supports Genlock PAL and NTSC
- Faster and more acurate readout of DIS
- Improved, continuously running brightness control loop
- Feedback on actural dimmer position for improved wall control
- Additional counter for hot standby hours
- Compatible to the new illumination units base on new Powerpack lamp drivers

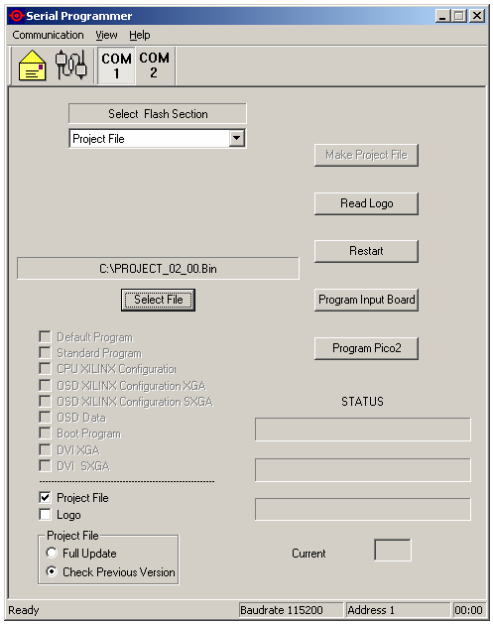
9.1 Update procedure

Since the timing of SXGA projectors will be changed, these projectors require some additional steps when being upgraded. One of these steps has to be performed before the general upgrade procedure, the other has to be performed to complete the procedure:

- **SXGA projectors must first be switched off! Disconnect them from the DVI source, and switch them on again with no source connected.**
- All projectors to be upgraded are switched on.
- Use serial connection via RS232 Remote-Control chain or an individual connection.
- Select the projector address or address the entire chain.
- In case the projectors are in a chain, select baud rate **9600**. For single connected projectors, the baud rate can be set to 115200.

In the Serial Programmer dialog,

- select flash section: **project file**
- Select file: **project_02_00.bin**
- Checkbox: **project file**
- In project file section: **Check previous version**
- Press the button **ProgramPico2**



Wait until the download is finished, and the projector has completely rebooted.

For SXGA projectors: Press the button **Program Input Board**!

SXGA+ systems run with Firmware 3.x. Firmware 3.x is NOT an upgrade of Firmware 2.x!! So do not try to update XGA or SXGA projectors to Firmware 3.x!

10 Manual User Interface

The manual user interface located at the rear of OverView D includes the switches of the illumination unit [A], [B], [C], the LED's of the illumination unit, and the LED's of the lamp doors.

The manual user interface is intended to operate the projection module when servicing. The trained Barco support technicians can analyze errors by evaluating the status of the LEDs.

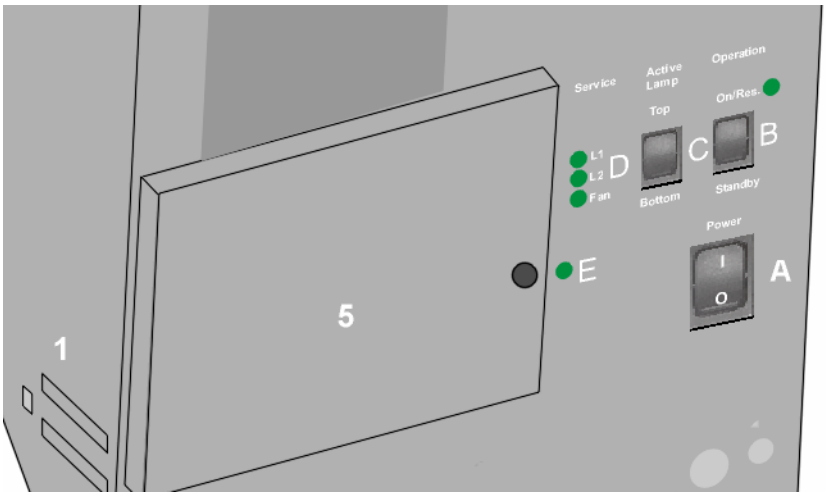


Figure 10-1
detail of rear view OverView mD

10.1.1 Power Switch

The power switch [A] connects/disconnects the projector from the mains. Once switched on, the projector should be disconnected from the mains only for servicing.

Do not press the power switch while the projector is running. The projector has to be switched to Standby first!

10.1.2 Standby Switch

The Standby Switch [B] has 3 positions: neutral (not pushed), up (pushed to the top), down (pushed to the bottom).

The switch is slope sensitive and reacts when changing from one position to the other. To prevent operation errors, a minimum time is required for pushing. After sending a command (after pushing the switch), the next command can only be sent after the release of the switch for at lease 0.5s.

In case the power switch [A] is off, there is no reaction.

Projector status	Power LED	Action	Push time	Function
Standby (no error)	red, static	Up		switching on the projector
		Down		only in combination with active lamp selection switch [3], for servicing only
Standby (error)	red, blinking fast	Up	3sec	reset of error after servicing
		Down		no function
On (no error)	green, static	Up		only in combination with active lamp selection switch [3]
		Down	3sec	switching off the projector (standby)
On (error)	green, blinking slowly	Up	6sec	reset of non critical error
		down	3sec	switching off the projector (standby), reset of non critical error
Projector is starting up or shutting down	blinking yellow	Up		no function
		Down		no function

10.1.3 Active Lamp Selection Switch

The Active Lamp Selection Switch [C] has 3 positions: neutral (not pushed), up (pushed to the top), down (pushed to the bottom).

The switch is slope sensitive and reacts when changing from one position to the other. To prevent operation errors, a minimum time is required for pushing. After sending a command (after pushing the switch), the next command can only be sent after the release of the switch for at lease 0.5s.

In case the power switch [A] is off, there is no reaction.

Projector status	Power LED	Action	Function
Standby (no error)	red, static	Up	Lamp Top becomes active, lift is going down
		Down	Lamp bottom becomes active, lift is going up
Standby (no error) Standby switch pushed down	red, static	Up	Toggling between the status level modes (for servicing only)
		Down	Toggling between the status level modes (for servicing only)
Standby (error)	red, blinking fast	Up	no function
		Down	no function
On (no error)	green, static	Up	Lamp Top becomes active, lift is going down
		Down	Lamp bottom becomes active, lift is going up
On (no error) Standby switch pushed up	green, static	Up	Toggling between the status level modes (for servicing only)
		Down	Toggling between the status level modes (for servicing only)
On (error)	green, blinking slowly	Up	no function
		down	no function
Projector is starting up or shutting down	blinking yellow	Up	no function
		Down	no function

10.1.4 Indication of Power LED

Color	Blink Mode	Meaning
Red	Static	Projector is in Standby-Mode (=Off)
Green	Static	Projector is in Operation-Mode (=On)
Yellow	Blinking/Fast	Projector is starting up
Yellow	Blinking/Slowly	Projector is switching off
Green	Blinking/Slowly	Projector is in Operation-Mode (=On); a Non Critical Error occurred; Check status for more information; then press Standby Switch/On for acknowledge
Red	Blinking/Fast	Projector off (Standby) because of a Critical Error; Service required; after service press Standby Switch/On for acknowledge
Green	Blinking/Fast	Projector is in Operation-Mode (=On); a Critical Error occurred; Check status for more information.

10.1.5 Indication of Lamp Door LED

Color	Blink Mode	Meaning
Red	Static	lamp is switched off, lamp door can be opened for servicing
Green	Static	lamp is switched on, DON'T open the lamp door! (in case the door is opened, the lamp is switched off automatically)
Yellow	Static	lamp is switched on for Hot Standby mode or Auto Switch mode (17 minutes changeover time), DON'T open the lamp door! (in case the door is opened, an error occurs)

Only open the lamp door in case the lamp door LED shines red.

10.1.6 Indication of the Status LEDs

	Color	Blink Mode	Meaning
Top LED (status LED of Lamp Top)	Red	Static	lamp is switched off, cooled down
	Green	Static	lamp is switched on,
	Yellow	blinking fast	lamp is starting (15 minutes)
	Yellow	blinking slowly	lamp is cooling down
	Red	blinking slowly	lamp is switched off, cooled down an error occurred, service required!
Mid LED (status LED of Lamp Bottom)	Red	Static	lamp is switched off, cooled down
	Green	Static	lamp is switched on,
	Yellow	blinking fast	lamp is starting (15 minutes)
	Yellow	blinking slowly	lamp is cooling down
	Red	blinking slowly	lamp is switched off, cooled down an error occurred, service required!
Bottom LED (status LED of Fan)	Red	Static	Fans are off
	Green	Static	Fans are on
	Red	blinking slowly	Fan error, at least one fan failed service required!

11 De-mounting the seamless screens

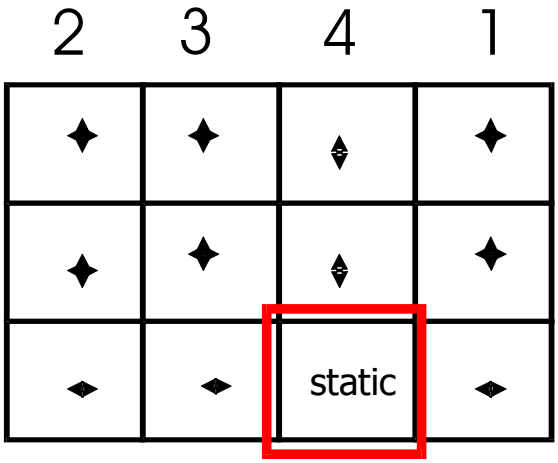
When de-installing the system with seamless screens, strictly keep to the procedure below! Otherwise the screens will be damaged!

Since there are four different types of screens with respect to movability (static, in horizontal direction only, in vertical direction only, in horizontal and vertical direction), not only the entirety of the projection systems has to be cared for, but also the position of the projection system in the display wall!

It is crucial to know the position of the static screen in the bottom row. Above the static screen, in all rows the screen with vertical movability only is placed!

The module with the static screen is marked by a red label on the right rear profile.

The Horizontal Movement Screws which are required to de-install the screens are in a plastic bag which is fixed via cable ties in the darkbox of the static module.



Start de-installation only after the respective screen has been equipped with the top and bottom horizontal movement screws!

Before de-installaing a screen, apply the Horizontal Movement screw! Turn the horizontal movement screws until there is at least 1mm gap to the neighbor!

To de-install the display wall, start with de-installing the screens of the **top** row.

In the top row, the screen above the static screen is the **last** one to be de-mounted!

In the entire **display wall**, the **static** screen is the **last** one to be de-mounted!

Start the de-installation with the most right screen of the top row.

In case of a only two columns, one of the outer screens is naturally the one which is above the static screen! Make sure NOT to start with this screen!

When the screen to start de-installation has been defined,

turn in the two horizontal movement screws of this screen until the screen front is moved approx. 2mm against the vertical frame towards the horizontal movement screw.

Only when there is a gap of 2mm to the adjacent screen, from the rear side of the display wall unlock the 4 securing screws of this screen and de-mount this screen

On the screen, mark it's position in the display wall!

Proceed with the next screen, provided this is not the screen above the static screen.
Otherwise proceed with the most left screen of the top row.

It is the screen above the static screen which is the last one to be de-installed in a row!

Since horizontal movement of this screen is locked, there is no need to turn in the horizontal movement screws.

When all screens of the top row are de-installed, proceed with the next row. The de-installation sequence and procedure is identical to the procedure of the top row.

Proceed until all screens are de-installed.